QUALITATIVE ENVIRONMENTAL SITE ASSESSMENT AND DEVELOPMENT FEASIBILITY STUDY REPORT

Flint Group Pigments - Parcels 43 & 45 Huntington, West Virginia

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POTESTA

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1.0 INTRODUCTION

Potesta & Associates, Inc. (POTESTA) performed a qualitative environmental site assessment (ESA) and feasibility siting study (FSS) of two tax parcels which are currently owned by Flint Pigments Group (Flint) and identified as Huntington-Gideon Corp District, Tax Map 5, Parcels 43 and 45 (Site), on behalf of the Huntington Municipal Development Authority (HMDA). The ESA/FSS was performed in general accordance with the proposed scope of services outlined in POTESTA's proposals dated October 8, 2018, and November 19, 2018 (the latter proposal included the addition of submittal of selected samples for laboratory analysis).

1.1 Proposed Property Development Plan

POTESTA understands that an option is being considered by HMDA with Flint to purchase the Site, which encompasses approximately 7.8 acres. HMDA plans to make the Site available to Marshall University (Marshall) for the development of a new baseball stadium along with an associated surface parking lot to provide parking for their Division I men's baseball program. The location of the Site parcels is presented in the attached **Figure 1** in **Appendix A** of this report. According to information provided by Marshall, the new stadium will be constructed on Parcel 43. The existing parking lot, which is situated on Parcel 45 immediately adjacent to the site along the eastern side of 24th Street, will be resurfaced to support the planned facility. The initial schematic concept plan for the baseball stadium which is presented in **Figure 2**, proposes a 70,000-square-foot athletic facility including a new baseball playing field with fixed, premium spectator seating for approximately 3,500 patrons, a stadium club, restrooms, concessions, retail sales, team and umpire locker rooms, dugouts, support areas, and a baseball administrative suite. The initial facility schematics indicate that the playing surface elevation may be excavated below the current site grades allowing patrons to enter the facility at a concourse level with seating below. This alternative will require the excavation and removal of onsite soil materials to assumed depths ranging from 10 to 15 feet below grade.

The schematic plans for the proposed facility were included in a Request for Qualifications for design/build services which was issued by Marshall in September 2018. The responses were evaluated by Marshall and it is POTESTA's understanding that a design/build contractor has been retained for the project. This study was requested by HMDA to serve as a reference to the design/build team during the preparation and development of the construction plans for the project.

1.2 Site History and Environmental Permitting Status

The Site (Parcels 43 and 45) addressed in this report are situated north of 5th Avenue and are currently owned and operated by Flint (**Figure 1**). These properties were used as support areas for the main manufacturing facilities situated south of 5th Avenue and were utilized as a warehousing and storage area (Parcel 43) and a surface paved parking lot (Parcel 45). Manufacturing operations for various blue pigment dyes began at this site in 1912, following the construction of the initial manufacturing buildings in 1909 by Standard Ultramarine Company. Following several acquisitions and changes in ownership through the late 1970s, the facility was purchased by the Pigments and Dyestuffs Division of BASF Wyandotte Corporation in 1979. In 1986, the Wyandotte Corporation was renamed BASF Corporation and the Huntington facility operated as the Huntington Works of BASF Corporation (BASF). Following the merger of BASF Printing Systems and ANI Printing Inks after respective acquisitions of both companies by CVC Capital Partners in 2004, the ownership and operation of the manufacturing facility was changed to Flint Group Pigments.

The Flint properties, including Parcels 43 and 45, were entered into a United States Environmental Protection Agency (USEPA) facility-lead corrective action program in 1999 by BASF Corporation in response to the USEPA identification of the site as one of USEPA Region III's "high priority" RCRA Corrective Action sites. In July 1999, the WVDEP evaluated the site using USEPA's Environmental Indicator (EI) protocols to assess the site for potential human exposure from any site contaminates and to determine if the site groundwater was contaminated and if so, whether the plume was stable. The results of this evaluation determined that additional studies would be required to collect information regarding the possible effects manufacturing operations had on soil and groundwater resulting from the site's historic manufacturing operations.

In 2000, BASF prepared the Initial Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Workplan and an addendum to this plan was prepared and submitted to USEPA in 2003. This workplan and addendum included the initial phases of the facility site investigation with the purpose of collecting sufficient site soil and groundwater samples for analytical testing to determine if the USEPA EI protocols were being met at the site as well as the potential need for additional investigations or corrective action measures to be implemented at the site. The results obtained from this initial RFI workplan study resulted in the delineation of eight areas of concern (AOC) throughout the Flint manufacturing property. Two of the AOCs are relevant to this study and are located within the boundaries of Parcels 43 and 45 and are shown on **Figure 2**. These AOCs are referenced and described as follows:

> *AOC 4 (Fmr. Gasoline Station)* - Situated along the southwest corner of Parcel 45, area is currently developed as a greenspace/park area.
>
> *AOC 8 (Fmr. Coal Storage Area)* - Situated near the southwestern corner of Parcel 43, south and adjacent to the current warehouse 9B structure, area is currently gravel covered.

No further action was recommended for site soils at both AOCs 4 and 8 based on the analytical results of soil samples collected during the initial RFI. These results were noted to support the

conclusion that the detected contaminant concentrations were found to be within acceptable risk-based levels for the current usage for the facility. These results were issued in a written report to USEPA dated August 13, 2003, along with an additional September 20, 2005 letter addendum providing additional results from supplemental groundwater sampling conducted at the site. Impacted groundwater quality was discovered within the boundaries of Parcels 43 and 45, which are situated immediately downgradient from the main manufacturing facility. Several potential source areas (additional AOCs) have been delineated within the manufacturing facility south of 5th Avenue. The initial RFI work concluded that current human exposures to contaminants within groundwater were acceptable based on the investigation results. This conclusion was justified due to declining or stable trends discovered in chlorinated VOC concentrations, declining trends of BTEX concentrations obtained from upgradient monitoring well samples (well TMW-4S), and the calculation of very low groundwater transport velocities for semi volatile organic compounds (SVOCs) rendering the noted groundwater contamination immobile. The initial RFI document also concluded that since there were no current or prospective users of groundwater in this area of Huntington, West Virginia, a critical potential exposure pathway to receptors could be eliminated. Vapor intrusion of volatile organic groundwater contamination was also modeled to evaluate the potential exposure concern to indoor air receptors. The initial RFI study concluded that there was not an unacceptable risk to down gradient receptors via potential vapor intrusion to indoor air pathways.

A second phase of the RFI was completed at the site in 2008 with the purpose of collecting additional soil and groundwater samples for analytical testing. This phase of the RFI focused on the remaining AOCs which were located south of 5th Avenue within the manufacturing areas of the site. This additional sampling effort did not provide additional soil data with regard to Parcels 43 and 45. Groundwater samples were collected in July 2009 as part of this study, including down gradient wells situated within and north of Parcels 43 and 45. The findings presented from this second phase RFI work indicate that the collected results were consistent with the earlier RFI study findings (2002 & 2005), further documenting the reducing trends in groundwater contaminant concentrations. Additionally, the RFI report concluded that no additional groundwater monitoring wells would be required at the site; however, semi-annual groundwater sample collection from the existing site monitoring wells should be continued to monitor and assess the groundwater conditions.

An additional RCRA Facility Investigation Data Gap Report was prepared by BASF in 2016. This study included the collection of additional soil and groundwater samples at the site, including additional delineated AOCs on Parcels 43 and 45 for the purpose of evaluating potential vapor intrusion concerns. These additional AOC areas indicated on **Figure 2** included the entire Parcel 43 (encompassing and including the previous AOC 8 area), referred to as AOC 11 - Shipping and Warehousing Area, and the paved portions of Parcel 45 (excluding the previously delineated AOC 4 area situated near the southwestern corner) which was designated as AOC 10 - North Parking Lot. The study focused on the results of a site-wide groundwater investigation, additional soil sample collection in five areas of the site including AOCs 10 and 11, and deep soil gas investigation along the northern and eastern boundaries of AOC 10 (Parcel 45) to access the potential for soil gas vapor intrusion. Laboratory soil sample results for various contaminants of concern (COCs) were compared and evaluated against the June 2014 Voluntary Remediation and

Redevelopment Rule (VRRR) De Minimis Standard for Industrial Soils (Table 60-3B) and the May 2016 USEPA Regulatory Screening Levels (RGLs). Groundwater results were compared to the June 2014 VRRR De Minimis Standards for Groundwater (Table 60-3B). Soil gas data was compared to the residential and commercial screening values listed in USEPA VISL Calculator Version 3.5.1 and indoor air values were obtained from the Exterior SGC-IAC Calculator Version 3.4.

The results obtained from the 2016 Data Gap Report included a no further investigation recommendation with respect to delineated soil contamination noted within AOC 11 (Parcel 43). The basis for this conclusion was the lack of staining or odors were noted during the advancement of four subsurface borings. The report noted problems with the field screening equipment; however, a soil sample obtained from the highest field screening readings was collected and analyzed for Target Compound List (TCL) VOCs and TCL SVOCs. The report indicates that no contaminants were detected exceeding applicable standards.

1.3 Study Scope of Services

The scope of services for this ESA/FSS was prepared based on POTESTA's review of the relevant environmental site information provided by Flint and BASF, as well as several discussion and meetings with representatives of HMDA, the City of Huntington, and Marshall University The planned study approach was designed to collect additional specific environmental information at the Site to better understand the potential for environmental contamination and then to utilize this information to provide recommendations related to the construction of the planned baseball stadium and its use. The following sections present the findings of POTESTA's recently completed soil sampling event as well as professional opinions related to the potential development, construction, and use of the Site. These findings, conclusions, recommendations, and opinions are offered by POTESTA based on recent exploration work, laboratory results, a review of historical environmental studies, and our understanding of the Site's previous use. These recommendations and opinions are based on POTESTA's understanding of the proposed site development alternatives related to POTESTA on the conceptual site plan provided by Marshall (**Figure 2**). These opinions are also based on POTESTA's review and understanding of the current facility RCRA site status, current permits, and the impacts and limitations that current environmental site conditions may have on the planned development of the site.

2.0 ENVIRONMENTAL ASSESSMENT

The qualitative ESA approach was developed to collect site-specific subsurface information to evaluate the site with respect to the potential presence and physical extent of potential soil contamination in the areas of proposed construction; specifically, areas of site excavation or portions of the site which would be developed to include buildings. The objective of the ESA was to provide an initial overview including extent and depth within the site boundaries of possible soil contamination and was not designed to constitute a quantitative evaluation of risk to site workers, receptors in surrounding areas, or users of the planned development.

2.1 Soil Boring Spacing and Depths

POTESTA's proposed sampling plan design for the Site was prepared using a computer program entitled, *Visual Sample Plan Version 7.11a*, developed by Pacific Northwest Laboratory, Richland, Washington (VSP). POTESTA utilized the VSP software to determine a boring layout (spacing and quantity) resulting in a calculated confidence interval associated with the delineation of a specific size and shape "hot spot."

POTESTA's proposed sampling depths were developed based on an assumed depth of soil disturbance which would likely be required during excavation and construction of the planned baseball stadium. These depths were assumed by POTESTA based on our review and understanding of the schematic plans for the project which was assumed to be potentially as much as 15 feet below the ground surface (bgs). This assumption was made to account for foundation and buried utility excavations, light tower bases, and the potential conceptual plan of lowering the playing surface below the current site grade. During the field exploration and sampling work, if evidence of contamination was observed within specific samples, advancement of an individual soil boring was to continue to deeper depths until evidence of contamination was no longer observed, groundwater was encountered, or an individual boring depth of 25 feet bgs was reached, whichever was encountered first.

POTESTA understands that the preferred development option is to construct the planned baseball stadium on Parcel 43 with home plate situated near the northwest property corner of the parcel with center field oriented in a southeasterly direction (**Figure 2**). The current parking lot which is situated on Parcel 45 will be upgraded to support the new sport facility. Given this information, POTESTA assumed that the amount and depth of disturbance and excavation on Parcel 45 will be limited to buried utilities such as electrical conduit for parking lot lighting and stormwater drainage. POTESTA's soil boring locations and depths are presented on **Figure 1** and **Table 1**, respectively, and are discussed below.

Parcel 43

Based on schematic plans for the planned baseball stadium, the proposed playing field surface will be recessed and lowered below the existing surrounding site grades. This will require excavation and removal of existing site soils to reach an intended playing surface subgrade elevation within the boundary of Parcel 43. POTESTA's initial assumption of the potential excavation depth and disturbance associated with the planned construction activities on this parcel was on the order of as much as 15 feet below the current site grade. However, during an October 26, 2018 telephone conversation with Mr. Matt Ward of Ward Washington Law Firm (a representative of HMDA), Mr. Luis Pizarro, Associate Director of the USEPA Office of Remediation, Land and Chemicals Division, stated that previous environmental site assessment which has been completed under the facility RCRA permit has identified a natural clay layer underlying the site at a varied depth of 8 to 20 feet bgs (See **Section 3.1**). Mr. Pizarro stated that the USEPA desires, but does not require, that the clay barrier to remain intact to the extent possible. The presence of volatile groundwater contamination within the boundaries of Parcels 43 and 45 has been verified by previously completed RCRA facility studies. The USEPA has recommended that the clay barrier remain

intact and should not be removed or penetrated to the extent possible to remain as a natural impermeable barrier, limiting the potential for the migration of volatilized contaminates from the groundwater to interior spaces. He further stated that if the design and construction of the planned stadium requires site excavations to reach those depths, steps must be taken to either respect that clay, or to incorporate additional engineering measures to design and deal with increased chances of vapor intrusion issues, as needed.

For the open areas of Parcel 43 (those areas not covered by the former warehouse buildings), POTESTA proposed 53 subsurface soil borings advanced to a proposed depth of 4 feet bgs (**Figure 2**). These shallow borings were oriented on a sample grid across the Parcel 43 site at spacings of approximately 50 feet. Results obtained from the VSP computer model indicated that this grid spacing results in a 95 percent probability of encountering a circular "hot spot" with a radius of 30 feet. Additionally, 13 of those soil borings were to be extended to a proposed total depth of 16 feet bgs. These deeper borings resulted from a 100-foot grid spacing corresponding to a 95 percent probability of encountering a circular "hot spot" with a 60-foot radius. It is noted that the proposed soil boring depths were revised to 5 and 15 feet, as opposed to 4 and 16 feet, respectively, based on the direct-push drilling contractor's sampling equipment configuration. Based on the expected excavation depth limitations (as per Mr. Pizarro's statements), POTESTA does not believe the reduction from 16 feet to 15 feet bgs to be significant.

For the areas of Parcel 43 covered with buildings, POTESTA proposed advancement of up to five soil borings through the floor slabs of each of the existing buildings, each to a proposed depth of 16 feet bgs or deeper as noted.

Parcel 45

The information provided to POTESTA in the schematic development plans of the baseball field development, Parcel 45 is expected to continue to be utilized for surface parking. Given this fact, disturbances on this parcel will be limited to near-surface preparation and paving and likely shallow utility trenching for electrical conduits and stormwater structures and associated conveyance piping. With the required excavation areas yet to be determined, a similar parcel wide approach to that utilized on Parcel 43 for the environmental sampling was followed on this parcel.

POTESTA proposed to advance a total of 19 individual soil borings on Parcel 45 to proposed depths of 4 feet bgs (later revised to 5 feet bgs). This boring layout which is indicated on **Figure 2** corresponds to a grid spacing of approximately 75 feet. This approach is based on VSP model results resulting in a 95 percent probability of encountering a circular "hot spot" with a radius of 45 feet. Associated deeper borings were not proposed on this parcel given the conceptual plan of continuing to utilize this portion of the site as a surface parking lot which limits the planned depth of the required excavation.

2.2 Methodology for Soil Sample Collection and Laboratory Analysis

POTESTA's initial scope of services for the ESA did not include submittal of collected soil samples for laboratory analysis. The intent of initial ESA approach was to rely on field screening

using a portable Photoionization Detector (PID) to screen for the presence of volatile organic compounds (VOCs) as evidence of potential problematic soil contamination, for the following reasons:

- VOCs have been identified as the primary contaminants of concern at the site (including the Flint property manufacturing plant property (south of 5th Avenue) and an associated groundwater contaminant plume which has been determined to extend beneath the site).

- The study site is located immediately down gradient of several RCRA AOCs situated within the main manufacturing facility south of 5th Avenue which have been determined to be historic sources of contamination.

- Elevated levels of VOCs are detectable by field screening using a portable PID, a cost-effective screening method.

- VOCs are the contaminants most likely to cause issues due to odors or volatilization during construction activities and vapor intrusion potential to indoor spaces associated with the future use of developed property.

The initial consensus among POTESTA and HMDA was that the findings of the ESA would be used to evaluate whether further assessment/laboratory analysis would be required or warranted. However, based on the shortened timeline (with respect to the planned purchase date) due to the negotiation of an access agreement with Flint, POTESTA recommended laboratory analysis of a limited number of soil samples obtained during the field work for VOCs, SVOCs, poly chlorinated biphenyls (PCBs), and RCRA metals.

2.3 Field Sampling Activities

In preparation for the field sampling, the predetermined sampling grids for the Site were established in the field by ground survey for reference during the drilling work. Field sampling activities were completed at the site between November 13 thru 16, 2018, following negotiations of a site access agreement between BASF/Flint and POTESTA. The following sections serve to provide a summary of these field sampling activities.

2.3.1 Existing Site Utility Clearance

POTESTA contacted West Virginia 811 and retained Master Locators, a private subsurface utility location contractor, to visit the site and identify the location of buried utilities in the immediate areas of the proposed borings prior to commencing with the site assessment activities. Additionally, POTESTA and Master Locators met on site with representatives of area utility providers to determine and document the locations of know public utilities immediately adjacent to the site boundaries. A sketch of identified on-site utilities and a Field Service Report prepared by Master Locators is included as **Appendix B**.

Additionally, POTESTA reviewed information in a Phase I ESA performed by Ramboll Environ in August 2018 that identified a previous underground rail tunnel crossing 5th Avenue that was reportedly closed and filled in the late 1970s. POTESTA discussed this with on-site Flint personnel, who verified that the tunnel did exist. POTESTA noted subsidence in the sidewalks on both sides of 5th Avenue on the southwest corner of Parcel 43 that may indicate the location of the former rail tunnel.

2.3.2 Advancement and Logging/Screening of Soil Borings

The soil boring labeling nomenclature adopted by POTESTA for the sample collection activities included the parcel identification (i.e. P43 or P45) followed by the east/west grid line starting along the western boundary of each parcel denoted by letters (*i.e.*, A, B, C. etc.) and then the corresponding north/south grid line with a numerical label (*i.e.*, 1, 2, 3, etc.). Additional borings which were advanced within the existing structures on Parcel 43 were labeled with a building number (B1 or B9 – see note in **Section 2.3.3** regarding mislabeling of buildings in the field) and sequential sample number. Collection of the subsurface soil samples at each of the planned boring location grid intersects was accomplished using a direct-push sampling rig. The rig utilized Macro-Core samplers equipped with acetate liners to collect and recover sampled soil horizons from the subsurface, providing a continuous soil core for visual observation, PID screening, log preparation, and sample collection upon retrieval. Direct-push drilling services for this project were provided by A-Zone Environmental Services LLC (A-Zone). Sampling of the individual soil borings was conducted in intervals ranging from approximately 1 to 3 feet based on soil recovery and visual observations.

Soil samples collected during the sampling activities were visually classified and logged by a POTESTA staff scientist/geologist following the Unified Soil Classification System. Following visual observation, the POTESTA field representative placed a portion of the recovered sample into a re-sealable bag in order to field screen the specimen for the presence of organic vapors using a PID. Following sealing of the bag, the portion was then vigorously shaken to aid with the release of organic vapors and allowed to stabilize, and then slightly opened allowing the PID probe tip to be inserted for screening. POTESTA's field representative selected soil samples for laboratory analysis based on field screening results and visual field observations (*i.e.*, appearance, color, and/or noticeable odor). Field observations and screening readings are recorded on POTESTA Soil Boring Log Record forms, included in **Appendix C**, as well as the summary of the soil boring table included as **Table 1** in **Appendix D.**

Those portions of the soil samples which were selected for laboratory analysis were collected into the appropriate laboratory-supplied containers, labeled, and placed in a cooler. These samples were then shipped to Pace Analytical Laboratory, a West Virginia-certified laboratory, with proper chain-of-custody documentation.

2.3.3 Soil Samples Selected for Laboratory Analysis

For the purposes of this ESA, samples from less than 3 feet bgs are considered surface soil samples, and samples from greater than 3 feet bgs are considered subsurface soil samples. POTESTA submitted nine soil samples for laboratory analysis, including:

- Parcel 43 Surface Soil Samples
  - Parcel 43 grid line intersection A2, 0 to 3' bgs sample interval - designated as P43 A2 (0-3) - Slight odor from 0.2' - 2.5', PID = 2.1 ppm
  - P43 B6 (0-2) - Green color in layer from 0.3' - 0.5', PID = 0 ppm
  - P43 E3 (0-2.5) - Slight sewage odor from 0' - 1.5', PID = 16.2 ppm
  - P43 F2 (0-2.4) - Slight sewage odor from 0' - 1.8', PID = 4.7 ppm
  - *B9 B2 (0-2.5) - Boring was advanced within Building 1 near the center of the slab

- Parcel 43 Subsurface Soil Samples
  - P43 D7 (5-7.5) - White/pale yellow color from 1.3' - 10', sewage odor, PID = 0 ppm
  - *B1 B1 (2.5-4.2) - Boring was advanced within Building 9B near the SE corner

- Parcel 45 Surface Soil Samples Only
  - P45 B1 (0-2.5) - Slight odor from 0.2' - 2.3', PID = 1.8 ppm
  - P45 B5 (0-2.5) - PID = 3.6 ppm

*Note – The soil borings inside Building 1 were labeled as "B9 . . ." and vice versa due to a field error in identifying the building numbers. The soil borings are correctly located on the sample location map (**Figure 2**).

Therefore, seven surface and two subsurface soil samples were analyzed for VOCs, SVOCs, PCBs, and RCRA metals as part of this ESA.

2.4 Sampling Results and Discussions

Soil analytical results are summarized below, and are also presented in **Table 2** in **Appendix D** and in the Laboratory Analytical Reports in **Appendix E**. Field screening readings and soil sample observations are presented in the Soil Boring Log Record forms in **Appendix B** and summarized in **Table 1**.

2.4.1 Contaminant Concentration Screening Values

Soil sample results, for analytes detected in at least one sample (above its minimum laboratory detection limit), were compared to the United States Environmental Protection Agency Residential and Industrial Regional Screening Levels (RSLs), updated November 2018.

For analytes for which RSLs are not established, POTESTA compared those results to West Virginia Department of Environmental Protection (WVDEP) Residential and Industrial Risk Based Concentrations (RBCs). The WV RBCs are established in the Code of State Rules Title 60, Series 3 (60 CSR 3), Table 60-3B, *WV De Minimis Levels (Revised 2014)*, and are used in the WVDEP's Voluntary Remediation Program (VRP). Although this site is not in the VRP, these values are presented to provide additional perspective regarding target analyte concentrations at the site. Additionally, several metals were compared to natural background levels of inorganics

in soil in West Virginia from Table 2-3, West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual (VRRA Guidance Manual).

The West Virginia Voluntary Remediation and Redevelopment Rule (VRRR) states that when a De Minimis Standard for an analyte is less than the natural background, the natural background value may be used in place of the De Minimis Standard. In the section below, POTESTA discusses comparison of the maximum concentrations for several metals to their respective maximum natural background for West Virginia. Published maximum natural background concentrations in West Virginia soil used in this assessment were obtained from Table 2.3 Natural Background Levels of Inorganics in Soil in West Virginia and Surrounding Areas in the VRRA Guidance Manual.

2.4.2 Analytical Results and Screening Summary

2.4.2.1 Parcel 43 Surface Soil

Two VOCs, 16 SVOCs, 6 metals, and 1 PCB aroclor were identified at concentrations above their laboratory detection limits in surface soil on Parcel 43.

Two analytes, arsenic and Aroclor 1242, were detected exceeding their respective Industrial RSLs. However, arsenic was not detected exceeding its maximum natural background for West Virginia.

No other analytes were detected in Parcel 43 surface soil exceeding their respective screening levels.

2.4.2.2 Parcel 43 Subsurface Soil

Three VOCs, 15 SVOCs, and 4 metals were identified at concentrations above their laboratory detection limits in subsurface soil on Parcel 43.

Arsenic was detected exceeding its Industrial RSLs but was not detected exceeding its maximum natural background for West Virginia.

No other analytes were detected in Parcel 43 subsurface soil exceeding their respective screening levels.

2.4.2.3 Parcel 45 Surface Soil

Two VOCs, 15 SVOCs, 4 metals, and 1 PCB aroclor were identified at concentrations above their laboratory detection limits in surface soil on Parcel 45.

Two analytes, benzo(a)pyrene and Aroclor 1242, were detected exceeding its Residential RSL. Arsenic was detected exceeding its Industrial RSL but was not detected exceeding its maximum natural background for West Virginia.

No other analytes were detected in Parcel 45 surface soil exceeding their respective screening levels.

2.4.3 Discussion of Analytes Exceeding Screening Concentrations

Three analytes, benzo (a) pyrene, arsenic, and Aroclor 1242 were detected in site soil exceeding screening standards.

Benzo(a) pyrene was detected in one sample exceeding its Residential RSL. Based on the concentration of the detection and its occurrence exceeding the standard in only one of the samples, POTESTA does not anticipate benzo(a)pyrene to be a contaminant of concern with respect to site development.

Arsenic was detected in numerous samples exceeding its Industrial RSL but was not detected exceeding its maximum natural background for West Virginia. Given that the VRRR allows the use of natural background as a de minimis screening level, POTESTA does not anticipate arsenic to be a contaminant of concern with respect to site development.

Aroclor 1242 was detected in all four open-ground surface soil samples on Parcel 43 at concentrations exceeding its Industrial RBC. It was not detected beneath the buildings or in subsurface soil. Aroclor 1242 was also detected in surface soil on Parcel 45 exceeding its Industrial RSL. Based on the detection of Aroclor 1242 in all of the open-ground surface soil samples on Parcel 43, it is possible that it is present in surface soil throughout the parcel.

2.4.3.1 Aroclor 1242-Impacted Soil

PCBs, such as Aroclor 1242, are regulated by the Toxic Substances Control Act, which is managed by the USEPA. POTESTA's experience is that PCB-impacted soil removal, handling, and disposal will require the approval of the USEPA. The USEPA has several options for cleanup and removal of PCB-impacted soil, but as a rule, POTESTA anticipates that the USEPA will require an assessment/waste characterization plan, a soil management plan (to include appropriate disposal requirements), and a confirmation soil sampling plan.

3.0 FEASIBILITY SITING STUDY

3.1 Site Soils

During the exploration and sampling work which was completed during the various RCRA RFI site investigations at the Site, numerous soil borings and groundwater monitoring wells were drilled using both rotary drilling and direct push techniques. These borings were logged and included in the various historic RFI documents for the site. These include one monitoring well (TMW-9D) and three subsurface borings (AOC11-1, AOC11-2, and AOC11-3) on Parcel 43, and eight monitoring wells (TMW-1D, TMW-12D, and TMW26 thru TMW31) on or near Parcel 45. The approximate locations of pertinent borings are indicated on **Figure 2**. Boring logs obtained

from this previous work generally indicate an unconsolidated soil lithology under both parcels including the previously referenced low permeability clay (logged as clay, silty clay, and/or sandy clay) unit with a thickness of 8 to 10 feet on Parcel 43 and 11 to 20 feet in total thickness on Parcel 45. The clay unit is underlain by dense, interbedded layers of sand with clay and silt which were noted to continue in depth to just above the bedrock surface where an approximate 10-foot layer of sand and gravel was encountered. This bedrock surface was logged as being at an approximately depth of 55 to 60 feet from the ground surface. Copies of these referenced borings logs which were obtained from completed RFI documents provided to POTESTA by BASF/Flint are attached in **Appendix C** of this report.

3.2 Groundwater Occurrence

Regular groundwater sampling has been conducted by BASF as the RCRA permittee of the Flint site and the flow direction and velocity is calculated annually for the site. Depths to groundwater have been regularly gauged in the existing monitoring wells to determine the overall regional site gradient and groundwater flow direction. Based on this information, the groundwater levels and direction of flow are reported to be somewhat stable with the overall gradient and flow direction to be from south to north toward the Ohio River.

Groundwater levels beneath Parcels 43 and 45 are reported to be at an elevation of 526.4 feet near the northern edge of Fifth Avenue to 526.2 feet along the northern parcel boundary. Given the current site grade elevation of approximately 548 feet, the depth to groundwater at the site is expected to be approximately 21 to 22 feet bgs. Given the confirmed presence of a clay layer from near the current ground surface to a depth of 8 feet to 20 feet bgs, the occurrence of groundwater is noted to be below this clay layer.

Previous RFI studies prepared and submitted to the USEPA by BASF indicate the presence of chlorinated volatile organic compounds site wide which are above the recommended minimum constituent levels in groundwater. Analytical results from regular groundwater sampling events are reported to indicate that the concentrations of many of these organic compounds are decreasing, degrading, or are noted to have been replaced by surrogate breakdown products. These factors are noted and referenced to support the RFI's finding that site groundwater contamination is stable and therefore does not pose a threat to human health. This finding is also supported by the presence of the clay confining layer across the site, low groundwater flow velocities, retardation of contaminant with the existing site soil types, and the lack of groundwater users in downgradient areas of the site.

The following excerpt from the 2003 Phase I RFI Report summarizes the current USEPA position on the site with respect to existing groundwater contamination: *"direct contact with constituents in soil is not a current exposure pathway, as all uncontrolled areas were evaluated and not found to contain any constituents at concentrations exceeding either EPA or WVDEP criteria. Therefore, the only exposure pathways are either direct contact with groundwater or exposure to vapors generated by the groundwater. Under the conditions documented in 2003, neither of these pathways represented a significant human exposure. Since groundwater concentrations are stable or declining, the conclusion that human exposures are controlled remains valid."*

3.3 Existing Site Utilities

In preparation for the ESA subsurface drilling and soil sampling efforts, POTESTA contacted WV811 to clear areas of the planned drilling work of buried site utilities. In addition, two local public utility providers, West Virginia American Water Company and the Huntington Sanitary Board, were also contacted to conduct existing utility location surveys at or adjacent to the site. Due to the density of the planned boring location grid and BASF and Flint's lack of historic knowledge of the previous private utility locations onsite, POTESTA contracted with a private utility locate company to utilize indirect means of locating additional potential buried utility locations across Parcels 43 and 45. A copy of the buried utility location mapping for this project which was prepared by Master Locators prior to the drilling work is attached to this report in **Appendix B**.

The design of any required buried utilities associated with the baseball stadium project should consider limiting the depth of excavations to minimize disturbance to the natural underlying clay layer. This factor and the locations and extent of planned excavations will likely be reviewed by USEPA officials to determine potential impacts the project may have with the current RCRA status of the Site as well as corrective measures which are being evaluated for the Site and surrounding areas of the Flint properties. The main exposure pathway from this Site has been determined to be indoor air intrusion from volatile compounds associated with the underlying groundwater contaminant plume. Deeper excavations, which significantly penetrate the underlying clay layer may result in the USEPA requiring additional and more significant engineering controls to be incorporated into the design of the stadium project to protect from vapor intrusion into the interior spaces of the planned structures.

3.4 Implications of PCB Impacted Soils on Parcel 43

Based on the detection of Aroclor 1242 exceeding its Industrial RBC in all of the laboratory-analyzed open-ground surface soil samples on Parcel 43, it is possible that it is present in surface soil throughout the parcel. Excavation, handling, and/or removal of this material from the site will need to be performed according to plans approved by USEPA prior to construction of the facility.

3.5 Development Restrictions for RCRA Compliance

USEPA RCRA officials have indicated the current and ongoing RCRA site investigations and negotiations should not impact the anticipated reuse of the Site for the construction of a baseball stadium. These planned investigations are focused on the potential for subsurface vapor intrusion to indoor air spaces from volatile organic compounds noted to exist in the site groundwater. Ongoing vapor intrusion studies, when completed, will ultimately lead to the development of a Corrective Measures Study (CMS) at the site by BASF. This CMS document will present the recommended final site remedy alternatives for the entire Flint property including Parcels 43 and 45. Following the approval of the final CMS document by the USEPA, and solicitation of public comment and input, USEPA will formally select the final remedy to be implemented at the site by issuing a Final Decision and Response to Comments document. USEPA is anticipating that the

proposed final remedy for Parcels 43 and 45 (including AOCs 4, 8, 10, and 11) will include, at a minimum, long-term groundwater monitoring to confirm plume stability and the documentation of any changes to the current contaminant levels and extent of the impacted groundwater plume. Additionally, USEPA is assuming that the following activities and use restrictions may be incorporated:

1. The design and incorporation of a vapor intrusion control system to be proposed and approved in advance of any construction by the EPA. The proposed system shall be installed in each new structure which is constructed above or within 100 feet around the perimeter of the volatile organic compound groundwater plume, delineated in the RCRA study documents.

2. Prior to any earthwork activities, a Soils Management Plan will be developed and submitted to EPA for review and approval for all areas of the work site where any contaminants remain in the soils at levels above EPA's screening levels for non-residential use or groundwater above federal maximum contaminant levels (MCLs).

3. The current owner of the site shall agree to allow EPA, WVDEP, and/or their authorized agents and representatives, access to the parcels to inspect and evaluate the continued effectiveness of the Final Remedy and, if necessary, to conduct additional remediation to ensure the protection of the public and the environment based on the Final Remedy which is selected.

4. A groundwater use restriction must be maintained for the property by owner. The groundwater may not be used for any purposes other than the operation, maintenance, and monitoring activities required by the EPA.

5. No new monitoring wells shall be installed on the property.

RCRA compliance on Parcels 43 and 45 should not limit the development alternatives afforded HMDA and/or Marshall with respect to the construction of a new baseball stadium. The USEPA will continue to require the RCRA permittee (BASF) to perform all necessary environmental investigations and all monitoring activities, institutional control, or other corrective actions selected by the agency. The USEPA does not anticipate requiring others such as HMDA or Marshall to perform active corrective actions at the Site; however, the owner will be held responsible for implementing and maintaining all of the activity and use restrictions selected for the site and described in the site's Final Remedy.

It should be noted that USEPA Region III permitting officials may require submittal of the facility construction plans for review prior to construction in order to review any vapor intrusion controls which are being proposed. This review will also likely include an evaluation of the depth of excavation and to what extent these excavations are impacting the underling clay layer at the Site.

3.6 Vapor Intrusion Barriers for Indoor Spaces

Since VOC groundwater contamination beneath the site has been detected, the potential exists for vapor intrusion and collection of volatilized COCs to interior spaces of existing and proposed structures at this site. The RCRA RFI studies have focused on the potential for vapor intrusion, and these documents, as well as recent EPA correspondence, indicate that engineering controls such as vapor intrusion control systems/barriers, should be considered for all planned structures.

Since the facility will likely be constructed as slab-on-grade construction, the incorporation of some type of subgrade vapor barrier should be considered for all constructed buildings, adequate ventilation afforded in the design of all ground level storage spaces, and properly sized HVAC systems for finished interior areas to ensure the proper turnover of interior air. Since the playing field will be open, no additional measures would be required at field level.

3.7 Limitation of Excavation Depths

The presence of a naturally occurring clay layer beneath both Parcels 43 and 35 has been verified in the RCRA RFI documents. This clay layer varies in total thickness across the site from 8 to 20 feet. The USEPA has determined that this impermeable clay horizon provides a barrier across the site minimizing the potential for vapor intrusion of organic volatile compounds into existing or proposed interior spaces.

The plans for the proposed facility should consider limiting the depth of any required subsurface excavations including foundation subgrade depths, site grading excavations, and utility installation to ensure limited disturbance to the clay layer. Geotechnical exploration should be carried out during the site design to better understand the depth, thickness and extent of this clay horizon. Some elements such as the light tower support foundations, elevator shafts, etc. may require deeper drilling or excavation, but should be limited to exterior portions of the planned construction. If an interior application is required, additional engineering controls must be considered in the design to minimize the potential for the migration and accumulation of volatized vapor to interior spaces.

In the event that deeper excavations are required, environmental risk analysis modeling may be required to determine if minimum threshold values for indoor air quality would be triggered prior to finalizing the design documents. Should these risk models indicate potentially unacceptable exposures to volatile compounds, alternate designs may be required, or more extensive engineering controls may have to be considered for the project.

3.8 NPDES Construction Stormwater Permitting

The construction of the planned baseball stadium and associated parking lot will require disturbance of an area which will exceed the minimum thresholds, requiring that the project will be regulated under the WVDEP Construction Stormwater Program. Given the overall schematic plan for the facility, it is likely that the construction activities will disturb in excess of 3 acres, requiring that a Site Registration Application Form be prepared and submitted to the City of Huntington and the WVDEP – Division of Water and Waste Management for review and approval

60 days prior to the initial planned disturbance. This form submittal requires application contact information, planned project description, construction timeline, etc. as well as specifics related to the erosion and sedimentation control devices to be utilized to limit offsite migration of entrained sediment in runoff leaving the site. A detailed erosion and sediment control plan must be attached to the application form. The application must also include a Stormwater Pollution Prevention Plan (SWPPP) providing details of the vegetative and structural controls to be installed at the site which must be inspected and maintained during the duration of the site construction activities.

3.9 Municipal Separate Storm Sewer Systems (MS4) Compliance Requirements

Since this project is situated within the corporate boundaries of the City of Huntington, the disturbance will also be regulated under the Municipal Separate Storm Sewer Systems (MS4) program. In 1999, the USEPA promulgated rules which established requirements for the State to permit stormwater discharges from small MS4 urbanized areas. By definition, a regulated MS4 includes storm drain conveyance systems owned or operated by the State, City, or Federal entity, Town, or other public entity where stormwater discharges into waters of the United States. The federal regulations establish six categories of minimum control measure that must be implemented by permittees. Best Management Practices (BMPs) are to be proposed and utilized to implement the six minimum control measures in order to achieve an overall reduction of the amount of pollutants discharged in runoff from urban development areas. Each of the designated MS4 urban communities were then required to prepare a stormwater management plan indicating the regulatory review and approval structure for evaluating and permitting new development sites based on format and criteria prepared by the WVDEP. The City of Huntington's plan, which is managed through their Stormwater Utility, was reviewed and approved by the WVDEP. West Virginia's minimum control measures adopted BMPs include a "1-inch capture" requirement, which is unique to West Virginia when compared to other States.

The program requires that releases of stormwater from newly developed or redevelopment areas within the City's Stormwater Utility jurisdiction be managed for potential impacts of stormwater discharges to receiving streams. In short, the program limits the amount of stormwater volume from new imperious areas associated with development or redevelopment in urban areas. The MS4 is regulated on the municipal level through the City of Huntington's Stormwater Utility and a formal submittal is required for approval prior to issuance of a construction permit. The program requires that all areas planned for new development or redevelopment must provide measures onsite to management and control the initial 1-inch of rainfall from planned impervious areas of the site by utilizing runoff volume reduction methodology and stormwater control practices such as bioretention cells, porous pavement, grassed swales, amended soils, and vegetated roofs. The requirements allow for a reduction of 0.2 inch for areas of redevelopment, which would apply to the parking lot area situated on Parcel 45, if the new parking lot is not expanded to a larger coverage area than currently exists. Credits will also apply to Parcel 43 for the square footage of building roof area for those existing warehouse structures which will be demolished prior to construction.

In order to manage stormwater from impervious areas of the site, the accumulated stormwater (up to the initial 1-inch of rainfall from each precipitation event) must be collected and conveyed to a stormwater control system onsite. This control measure will promote collection and infiltration of

stormwater runoff directly to the subgrade soils, thus minimizing the volume of runoff entering the City's stormwater conveyance system and then being discharged to surface water receiving streams. Given the current RCRA status of this site as well as the focus on the current groundwater contamination, the infiltration of additional runoff to the subsurface groundwater system in this area can have both short- and long-term implications. If the direct infiltration to groundwater is pursued at this site with the proposed development, any changes to the current groundwater flow regime could be regarded by the current RCRA permittee as a change which was caused by HMDA and/or Marshall as the property/facility owner. This could open HMDA and/or Marshall up to potential future environmental liabilities associated with Parcels 43 and 45.

The current groundwater flow regime at this site has been studied and determined to be stable given the current reduction in contaminant concentrations. The degradation of soluble compounds, low flow velocities, and contaminant retardation within the subgrade aquifer soil types have all been presented as reasons why the current containment plume is stable and therefore does not present a threat to human health and the local environment. The presence of the clay layer also provides a barrier and limits a potential pathway for the migration of organic volatilized compounds into existing or planned structures. This clay layer, given its relatively low permeability does not promote infiltration limiting the potential and effectiveness for the infiltration of collected stormwater from the site. Any changes to the current groundwater flow through extraction or addition of infiltrated surface water could result in changes to the flow direction, velocity, and/or mobilization of existing contamination beneath the site. Furthermore, the excavation required to install subsurface stormwater control measures will require removal and disturbance to the natural clay layer.

Given the potential liabilities associated with the delineated groundwater contamination at this site, any changes to the groundwater flow regime in this area raises serious concerns about the potential migration of contaminants which are documented to exist at this site. The risk of potentially adding infiltrated surface water beneath this site and causing instability or changes to the current condition of the groundwater contaminant plume are high; therefore, serious consideration should be given in the site design aspects of this project. Alternative methods of managing the initial 1-inch of runoff should be studied and considered other than the direct infiltration of runoff to the site groundwater aquifer. These alternatives may include reuse aspects for irrigation of the collected stormwater volume, routing of collected stormwater volumes through bio-retention swales or "rain gardens" prior to release to the City's stormwater conveyance system, etc.

4.0 CONCLUSIONS

POTESTA's review of available information and ESA activities have identified the following site-specific conditions at the Site that have the potential to impact development, either during construction or post-construction use:

- Site history as chemical manufacturing facility and associated RCRA permitting status (see **Section 1.2**)

- PCB Aroclor 1242 contamination in surface soils on Parcel 43 (see **Section 2.4.3.1 and Section 3.4**)
- Naturally occurring clay layer present at depths of 8 to 20 feet bgs (see **Sections 2.1, 3.1, and 3.7**)
- Groundwater contaminant plume beneath Site and associated potential for vapor intrusion within structures (see **Sections 3.2** and **3.6**)
- Development restrictions for RCRA compliance (see **Section 3.5**)
- MS4 requirements and site-specific considerations (see **Section 3.9**)

POTESTA believes these site-specific conditions may represent a significant cost increase versus development of a previously undeveloped (i.e., "green field") site, but they can be managed to allow the Site's development with the benefits of the preferred location and returning the site to active use. We look forward to working with HMDA and Marshall to develop this Site as Marshall's new baseball facility.

5.0 CLOSING

This report has been prepared to assist HMDA in evaluating and planning with respect to the subject site. HMDA and POTESTA mutually devised the scope of this study, and are limited to the specific project, location and time-period described herein. The report represents POTESTA's understanding of the site conditions as discernible from information provided by others and obtained by POTESTA using the methods specified. POTESTA assumes no responsibility for information provided or developed by others, or for documenting conditions detectable with methods or techniques not specified in the scope of services. In addition, no activity, including sampling, assessment or evaluation of material or substance, may be assumed to be included in this study unless specifically considered in the scope of services and this report. Sketches and maps in this report are included only to aid the reader and should not be considered surveys or engineering studies. If additional data concerning this site become available, POTESTA should be informed so that we may examine the information and, if necessary, modify this report accordingly.

Respectfully submitted,

POTESTA & ASSOCIATES, INC.

David J. Corsaro, LRS
Senior Scientist

Chris A. Grose, LRS
Senior Engineering Associate I

DJC:CAG/mh

APPENDIX A

SITE LOCATION

0 2,000 4,000 8,000 Feet

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SCALE: 1" = 2000'
DRAWN: CH
DATE: 12/06/2018
CHECKED: CG
PN: 18-0317.001
APPROVED: DC
I:\Projects\2018\18.0317_HMDA-ESA\MapDocuments\Report\2 08_2018\HMDA_ESA_FIG 1.mxd

Potesta & Associates, Inc.
ENGINEERS AND ENVIRONMENTAL CONSULTANTS
7012 MacCorkle Avenue, S.E.
Charleston, West Virginia 25304
Office: (304) 342-1400 Fax: (304) 343-9031
E-mail: potesta@potesta.com

POTESTA

ECONOMIC DEVELOPMENT DIRECTOR
City of Huntington
P.O. Box 1659
Huntington, WV 25717

MAPPING FOR VISUAL REPRESENTATION ONLY

HMDA - Site Location Map

Huntington, West Virginia Quadrangle
Cabell County, West Virginia

For Informational Purposes Only

FIGURE 1

SCALE: 1" = 100'
DATE: 12/13/2018
PN: 18-0317.001
DRAWN: CH
CHECKED: CG
APPROVED: DC
I:\Projects\2018\18.0317_HMDA ESA\MapDocuments\Report\12_06_2018\HMDA_ESA_FIG 2.mxd

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POTESTA

ECONOMIC DEVELOPMENT DIRECTOR
City of Huntington
P.O. Box 1659
Huntington, WV 25717

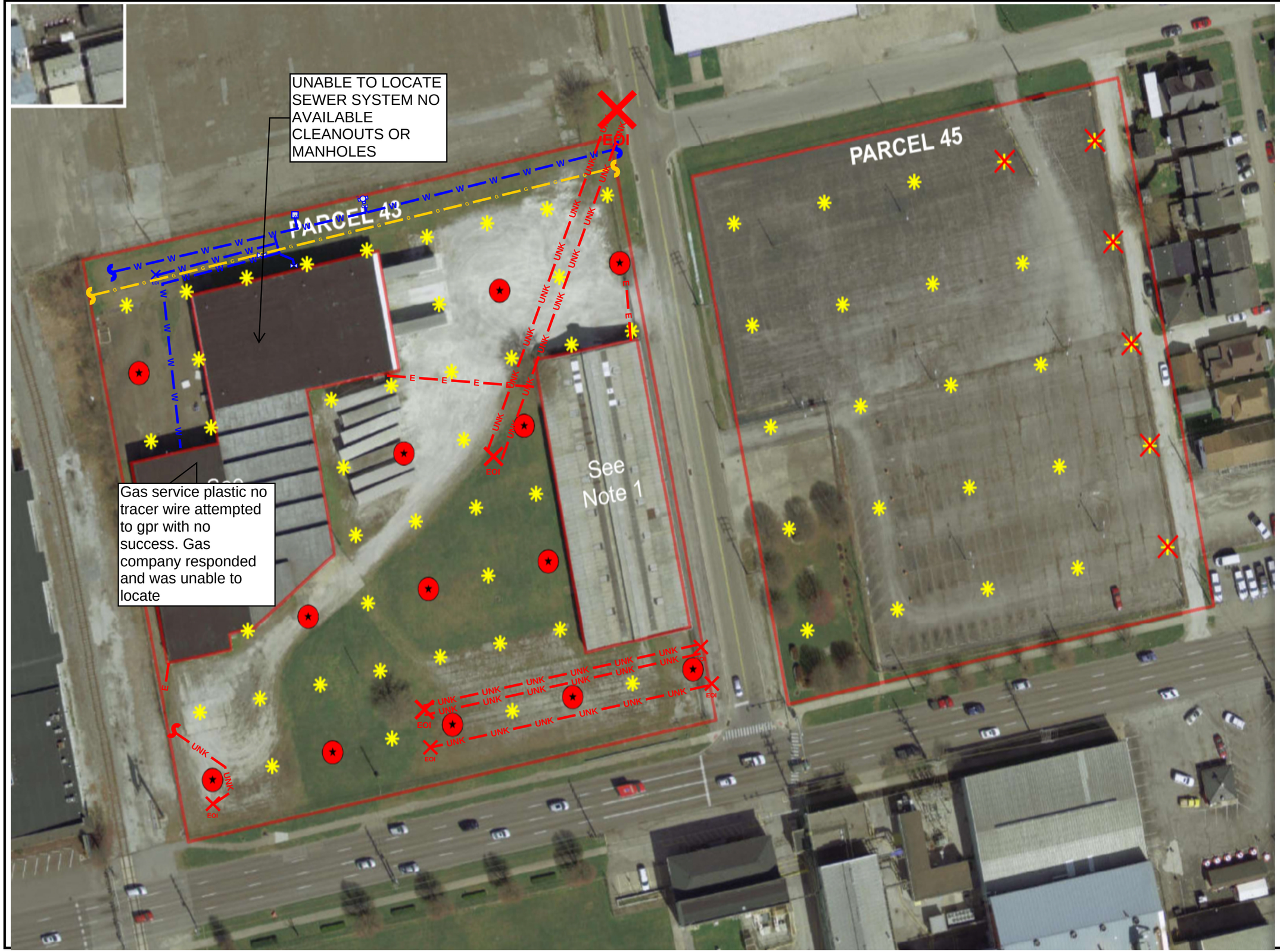
MAPPING FOR VISUAL REPRESENTATION ONLY

HMDA - Sample Location Map
Huntington, West Virginia Quadrangle
Cabell County, West Virginia

For Informational Purposes Only

FIGURE 2

APPENDIX B



master locators

800.495.4248
info@masterlocators.com
www.masterlocators.com

Site Name and Location:

Parcels 43 & 45
400 24th st
Huntington, West Virginia

Assumptions & Clarifications

1. UNLESS OTHERWISE NOTED UNDERGROUND UTILITY DATA IS CONSIDERED QUALITY LEVEL B (QLB) AS DEFINED IN ASCE 38-02: STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA AND IS INTENDED TO SHOW THE APPROXIMATE HORIZONTAL LOCATIONS OF EXISTING UNDERGROUND UTILITIES AS MARKED BY MASTER LOCATORS DURING A GEOPHYSICAL INVESTIGATION PERFORMED WITHIN THE OUTLINED SCOPE OF WORK.

2. ALL UTILITY LOCATIONS SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY. THIS PLAN SHOULD NOT BE USED FOR CONSTRUCTION OR DESIGN PURPOSES AND MASTER LOCATORS IS NOT RESPONSIBLE FOR DAMAGE TO UTILITIES RESULTING FROM ANY CONSTRUCTION WORK BASED ON THESE PLAN.

3. NO BOUNDARY OR PROPERTY SURVEY WORK WAS CONDUCTED IN THE DEVELOPMENT OF THIS PLAN. THE PLAN IS NOT DRAWN TO SCALE.

4.ANY DEPTH INFORMATION PROVIDED IS CONSIDERED APPROXIMATE AND IS NOT GUARANTEED UNLESS LABELED AS QUALITY LEVEL A (QLA) DATA.

Legend & Color Codes

Electric	Unknown	Water
E	UNK	W
Comms.	Storm	Sanitary
C	ST	SS
Gas		
G		

Man Hole · Valve · Continuation Mark · End of Information · Scope of Work
Bollard · Utility Pole · Clean Out · Storm Drain · Roof Drain
Floor Drain · Test Hole · Fire Hydrant · Irrigation Box
Site Light · Transformer · Electric Box · Phone Pedistal
Large (>12") Storm Line · Flow Direction

Revisions:

Date:	Description:	By:

ML Job #:
Date: 11/12/18
Technician(s): Zack strang
Client Name: Potesta

Field Service Report

*Formal invoice to follow

master locators
675 Concord Road Glen Mills, PA
1-800-495-4248
www.masterlocators.com

Company:
Potesta & Associates, Inc

Project:
Huntington Parcels 43 & 45

Customer Contact:
Ryan Bailey

ML Job#:
ML-110618-12756

Lead Technician:
Zachary Strang

Field Assistant:

Site Address:
400-498 24th St

Project Coordinator:
John Bogedain

Date:	Tech#:	STD Hours:	OT Hours:	Begin:	Onsite:	Offsite:	End:
11-16-2018	1	4	0				

Services Performed :(Check all that apply)

- [x] GPR Survey
- [ ] Concrete Scan
- [ ] Leak Detection - Helium
- [ ] Other
- [x] EM Scan
- [ ] CCTV Pipe Inspection
- [ ] Fault Locate
- [ ] Air/Hydro Excavation
- [ ] Leak Detection - Acoustic
- [ ] Surveying & Mapping

Soil Conditions: (Check all that apply)

- [x] Saturated
- [ ] Sand
- [ ] Dry
- [ ] Other
- [ ] Clay

Weather Conditions: (Check all that apply)

- [ ] Clear
- [ ] Snow
- [x] Overcast
- [ ] Other
- [ ] Rain

Utilities Features Designated: (Check all that apply)

- [x] Gas
- [ ] Fiber Optic
- [x] Sewer
- [x] Unknown
- [x] Water
- [ ] Comm
- [ ] Rebar
- [ ] None
- [x] Electric
- [x] Storm
- [ ] UST
- [ ] Other

Deliverable Request : (Check all that apply)

- [ ] Plan Mark Up
- [x] Sketch
- [ ] Engineering Report
- [ ] Other
- [ ] CAD Update

Deliverable Provided Onsite : No

Survey Methodologies:

Known Utilities:	UnKnown Utilities:	(Grid Spacing):
[x] Utilities within Scope of Work:	[x] Passive Scans:	10ft
[x] Utilities outside Scope of Work:	[x] Split Box Scans:	10 ft
[x] Building Feeds:	[x] GPR Scans:	10 ft

Other Survey Methodology:

Full Scope of Work:

Locate all utilities within 2 sites and clear approximately 76 borings

Additional Resources:

Result And Notes:

Monday-Locate all surface features throughout parcel 43. Cleared approximately 15 borings within parcel 43 for boring the following day. Unable to locate gas line, plastic no tracer wire, gas company is scheduled to come out. No evidence of sanitary line on property. Electric and comm feeds to two buildings run overhead.

Tuesday-completed clearing borings throughout parcel 43. A row of borings along the north side of property is awaiting verification of gas line and the water company plans to be on site for borings due to 30â water main being in area. Inside scan of one building completed. Sewer manhole located inside building that has been back filled with concrete. Sewer company is coming out Wednesday to perform dye test and video pipe inspection to verify route of sewer line. Suspected old railroad tracks crossing in multiple places through property.

Wednesday- completed clearing borings throughout parcel 45 and verified all surface features stay outside of scope. Sewer company attempted to vpi manhole that was verified to connect to parcel 43 through the use of dye test. Line was partially blocked and unable to continue onto parcel 43 property. They will be jetting the line to come back and vpi.
Gas company cleared their row and located gas main through property that I previously found with passive scans. Gas company was unable to verify gas lateral to building that is plastic with no tracer wire.

Thursday-completed scan of 2nd inside building and refreshed marks due to heavy rain/snow. Sewer company was scheduled to come back out to complete vpi and advised me to wait and keep property unlocked. Sewer company did not show up and called and verified I was leaving with Ryan at 7:15. Attempted to duct rod storm drains thAt are connected to sewer system again but suspected p-trap to stop gases from coming back out of combined system. Unable to locate any sewer or storm lines.

Friday-potesta contacted the sewer company and the sewer company advised to bore in between rain leaders on north side of building and wait for them on the bores in asphalt on back of loading dock north side. They advised that if they were unable to make it out by afternoon than to proceed with bores and they would accept responsibility for any issues with the sewer.

Client Communication:

Andrew was on site

Recommended Services: (Check all that apply)

- ◯ GPR Survey
- ◯ Concrete Scan
- ◯ Leak Detection - Helium
- ◯ Other
- ◯ EM Scan
- ◯ CCTV Pipe Inspection
- ◯ Fault Locate
- ◯ Air/Hydro Excavation
- ◯ Leak Detection - Acoustic
- ◯ Surveying & Mapping

Client PO# :

Fieldwork Complete: YES

Date: 11-16-2018 11:00 AM

Contacts on Site:

Ryan bailey, potesta, 304.982.1887

Signature:

master locators
675 Concord Road Glen Mills, PA
1-800-495-4248
www.masterlocators.com

"Take 5" for Safety

Account name:
Potesta & Associates, Inc

ML Job#:
ML-110618-12756

Project Coordinator:
John Bogedain

Lead Technician:
Zachary Strang

"Take 5" conducted by:
Zack strang

Date & Time:
11-16-2018 08:45 AM

Site Name & Location:
400-498 24th St
Huntington,WV

Tasks:

- [x] Utility Locate
- [x] Scan Borings
- [ ] Leak Locate
- [ ] Inside Scan
- [x] Scan Area
- [ ] Vacuum Excavation
- [ ] Fault Locate
- [ ] Survey & Mapping
- [ ] Scan Trench
- [ ] CCTV Pipe Inspection
- [ ] Concrete Scan

Critical Steps: (Check all that apply)

- [x] EM Scans
- [ ] Conquest Scans
- [ ] Vacuum Excavation
- [ ] Vacuum Hose Use
- [x] Heavy Lifting
- [ ] Power Tools
- [x] Duct Rodder
- [x] Access Manhole
- [ ] Saw Cutting
- [ ] Video Pipe Inspection
- [x] HandTools
- [ ] Ladder Use
- [x] SmartCart Scans
- [x] Connect to Electric
- [ ] Air Lance/Tools
- [ ] Confined Space Entry
- [ ] Entering Trench
- [ ] Other:

Hazards/Error Likely Situations: (Check all that apply)

- [ ] Slips, Trips & Falls
- [x] Pinch Points
- [x] Cold Stress Potential
- [ ] Oxygen Deficiency
- [x] High Vehicular/Pedestrian Traffic
- [x] Hand Hazards
- [x] Active Construction
- [ ] Loud Noise (>85 DB)
- [ ] Trench Collapse
- [ ] Other
- [x] Muscle Strain
- [ ] Heat Stress Potential
- [ ] Flying Debris
- [x] Exposure to Biological Hazards

Defense/Controls:

- [x] Hard Hat
- [x] Safety Vest
- [x] Traffic barricades/cones
- [x] Observation/inspect for trip hazards
- [ ] Nomex Overalls
- [x] Eye Protection
- [ ] Air M onitor
- [ ] Other:
- [x] Safety Toe Boots
- [x] Proper Lifting Techniques
- [ ] Review Heat Stress Symptoms
- [x] Maintain awareness of surroundings
- [ ] Tyvek suits
- [x] Observation
- [ ] Tripod/W inch
- [ ] Hearing Protection
- [x] Safe Electric handling
- [x] Review Cold Stress Symptoms
- [x] Make others aware of work area
- [x] Safety Gloves
- [x] Sanitize
- [ ] Harness

Have all crew members reviewed the JHA/Safety procedures developed for the job task? : Yes

Crew Members: With my signature, I acknowledge that I have reviewed the JHA(s)/Safety Procedures for the tasks and understand the hazards and controls needed to perform my work safely.

Name: Zack strang

Signatue:

Additional Notes & Comments:

Supervisor Review for Quality:

Date:

Time:

Name:

Signature:

APPENDIX C

POTESTA LOGS

BORING NO. B1 B1

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Soil/Rock Description	Sample Type /Number	Sample Depth	PID (ppm)
	CONCRETE			
0.3	**GRAVEL**, No Odor			
0.6	Brown **SANDY CLAY**, with Black, Brown, and Gray Gravel **(FILL)**, Slight Odor from 3' to 3.5'	SS-1		0.2
		SS-2		23.6
3.7	Grayish Brown **SILTY CLAY**, Medium Stiff, No Odor			
4.2	No Recovery		5	
5	Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-3		3.1
		SS-4		8.7
		SS-5	10	4.5
13.5	Orangeish Brown to Brown **SANDY CLAY**, with Clayey Sand, Soft, No Odor	SS-6		0.6
15	**BOTTOM OF BORING (15')**		15	
			20	

SPT Blows | N-Value | Moisture (%) | Recovery (%) | RQD (%) | Unconf. Comp., Tsf

POTESTA
7012 MacCorkle Ave., SE
Charleston, WV 25304
Telephone: 304-342-1400

BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. B1 B2

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.3		**CONCRETE**									
		GRAVEL									
0.6		**SANDY CLAY**, with Gravel and Trace Glass, Medium Stiff, No Odor **(FILL)**	SS-1								0.5
1.9		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor									
3		No Recovery		5							
5		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-2								0.2
8		Orangeish Brown **SILTY CLAY**, Soft, No Odor	SS-3								0.5
10		No Recovery		10							
				15							
15		**BOTTOM OF BORING (15')**									
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. B1 B5

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		CONCRETE									
0.4		**SANDY CLAY**, Brown, Black, and Red, with Gravel, Brick, and Concrete Fragments **(FILL)**, Slight Odor from 3' to 3.5' , with Glass	SS-1								0.8
			SS-2								0.6
4		No Recovery		5							
5		Loose **GRAVEL**, with Sandy Clay, Tan, Gray, Black, and Red, with Brick, Concrete and Glass, No Odor									
6.5		Gray **SILTY CLAY**, Soft, No Odor	SS-3								2.1
7.2		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor									
8		No Recovery		10							
10		Orangeish Brown **SILTY CLAY**, Soft, No Odor	SS-4								0.4
			SS-5								0.5
13.8		Orangeish Brown to Brown **SANDY CLAY**, No Odor		15							
15		**BOTTOM OF BORING (15')**									
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. B9 B2

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 4.5 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT** Loose **GRAVEL**, Gray, Brown, and Black, with Sandy Clay and Red Brick Fragments, Slight Odor	SS-1								5.4
2.5		No Recovery Refusal at 4.5', Pieces of Brick in Shoe of Tube									
4.5		**BOTTOM OF BORING (4.5')**		5 10 15 20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. B9 B3

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Raining 37°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		CONCRETE									
1		Loose **GRAVEL**, Gray, No Odor	SS-1								0.1
1.2		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor									
			SS-2	5							0.4
			SS-3								0.2
7.2		Orangeish Brown **SANDY CLAY**, Soft, No Odor	SS-4								0.3
9		No Recovery		10							
10		Orangeish Brown **SANDY CLAY to CLAYEY SAND** , Soft, No Odor	SS-5								0.3
12		No Recovery		15							
15		**BOTTOM OF BORING (15')**									
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. B9 B5

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 4.5 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**CONCRETE** Loose **GRAVEL**, Gray, Tan, and Red, with Brick and Concrete Pieces, No Odor **(FILL)**	SS-1								0.4
2.5		No Recovery Refusal at 4.5', Concrete in End of Spoon									
4.5		**BOTTOM OF BORING (4.5')**		5 10 15 20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 A1
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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**GRAVEL**, with Sandy Clay, Gray and Brown **SILTY CLAY**, with Trace Gravel, Medium Stiff, Brown to Grayish Brown, No Odor **(FILL)**	SS-1								0.4
2.1		**CLAYEY SAND**, with Gravey, Dark Gray with Brown and Red, Slight Odor**(FILL)**									
2.6		**SILTY CLAY**, Gray to Grayish Brown, Soft, No Odor									
3.5		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 A2

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		ASPHALT									
0.2		**SANDY CLAY**, with Gravel, Brown to Dark Gray, Slight Odor **(FILL)**	SS-1								2.1
2.5		Grayish Brown **SILTY CLAY**, Soft, No Odor									
3		No Recovery		5							
5		Gray with Orangeish Brown **SILTY CLAY**, Soft, No Odor									
5.7		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-2								0.4
			SS-3								0.5
			SS-4	10							0.4
13.5		Orangeish Brown **SILTY CLAY**, Soft, No Odor	SS-5								0.6
14		Orangeish Brown **SILTY CLAY**, with Trace Sand, Soft, No Odor		15							
15		**BOTTOM OF BORING (15')**									
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 A3

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT**									
		GRAVEL, Gray and Brown, with Sandy Clay, No Odor	SS-1								0.7
1.1		Fine **SAND**, Brown, Loose, No Odor									
1.5		No Recovery									
				5							
5		**BOTTOM OF BORING (5")**									
				10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 A7

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset : 5' North
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		SANDY CLAY, with Gravel, Gray, Black, and Brown, Slight Sewer Odor	SS-1								4.8
2.8		Orangeish Brown **SANDY CLAY**, Medium Stiff, No Odor									
3.7		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 A8

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		SANDY CLAY, with Gravel, Brick, and Concrete Fragments, No Odor **(FILL)**	SS-								0.4
2.5		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor									
3		No Recovery		5							
5		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-								0.6
			SS-								0.6
9.5		Orangeish Brown **SANDY CLAY**, Soft, No Odor Sandy Layers at 11.4' to 11.6' , 12.8' to 13.1', and 14.6' to 14.8'	SS-	10							0.7
			SS-	15							0.1
15		**BOTTOM OF BORING (15')**		20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 B1

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		SANDY CLAY, with Gravel and Brick Fragments, Gray, Brown, and Black, No Odor **(FILL)**	SS-1								10.4
2.2		No Recovery									
5		**BOTTOM OF BORING (5")**		5							
				10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 B2

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		ASPHALT									
0.2		**SANDY CLAY**, with Gravel, Concrete, and Brick, Brown, Red, Black, and Gray, No Odor **(FILL)**	SS-1								9.0
3		No Recovery		5							
5		**BOTTOM OF BORING (5")**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 B3

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT** **SANDY CLAY**, with Gravel and Brick Fragments, Dark Brown, Gray, Red, and Tan, No Odor **(FILL)**	SS-1								0.7
2		No Recovery									
5		**BOTTOM OF BORING (5")**		5 10 15 20							

BORING METHOD

HSA	- Hollow Stem Auger
SFA	- Solid Flight Auger
CC	- Concrete Coring
MD	- Mud Drilling
HA	- Hand Auger
RC	- Rock Coring

SAMPLE TYPE

SS	- Split Spoon Sample
ST	- Shelby Tube Sample
RC	- Rock Core Sample
BS	- Bag Sample

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BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 B6

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 2.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Yellowish Orange **SANDY CLAY**, with Green Lens Noted at 0.3' to 0.5', Medium Stiff, Moist, No Odor	SS-1								0.0
2		**BOTTOM OF BORING (2')**									
				5							
				10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 B7

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**									
0.5		Light Brown **SANDY CLAY**, with Asphalt, Soft, Moist, No Odor									
2		Yellowish Orange **SANDY CLAY**, Medium Stiff, Moist, No Odor, Asphalt Lens Noted at 3' to 3.1'	SS-1								0.2
4		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 B8

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, No Odor	SS-1								0.0
0.5		Light Gray to White **CLAYEY SAND**, Loose, Moist, No Odor									
1		Black **ASPHALT** and Red Brick, Mixed with Light Brown **SANDY CLAY**, Medium Stiff, Moist, No Odor									
2		Yellowish Orange **SANDY CLAY** Medium Stiff, Moist, No Odor Concrete Gravel Present at 2' to 2.3', with Red Brick									
4		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 C1

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		SANDY CLAY, with Gravel and Brick Fragments, Gray, Brown, Red, and Black, No Odor **(FILL)**	SS-1								0.7
1.5		Gray to Brown **SILTY CLAY**, Soft, No Odor									
3		No Recovery		5							
5		**BOTTOM OF BORING (5")**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 C6

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Yellowish Orange **SANDY CLAY**, with Gravel and Asphalt Throughout, Loose to Stiff, Moist, No Odor	SS-1								0.2
2.9		No Recovery									
5		Yellowish Orange **SANDY CLAY**, Stiff, Moist, No Odor	SS-2	5							0.0
6.5		Yellowish Orange **SILTY CLAY**, Soft, Moist, No Odor	SS-3								0.0
			SS-4	10							0.0
			SS-5								0.0
15				15							
		BOTTOM OF BORING (15')									
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 C7

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Light Brown **SANDY CLAY**, Soft, Moist, No Odor									
1		Yellowish Orange **CLAYEY SAND**, with Red Brick Fragments, Loose, Moist, No Odor Brick Lens Noted at 1'	SS-1								0.0
2.8		No Recovery									
5		**BOTTOM OF BORING (5')**		5							
				10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 C8

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Snow 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Light Brown **SANDY CLAY**, Soft, Moist, No Odor	SS-1								0.0
1.4		Red **BRICK** Fragments									
1.8		Light Grqy to White **CLAYEY SAND**, (Concrete), Loose, Dry, Slight Odor									
2.5		No Recovery		5							
5		Light Grqy to White **CLAYEY SAND**, Loose, Dry, Slight Odor	SS-2								0.0
7.5		Yellowish Orange to Red **SANDY CLAY**, Medium Stiff, Moist, No Odor	SS-3								0.0
10		Yellowish Orange **SANDY CLAY**, Soft, Moist, No Odor Gray Mottling Noted	SS-4	10							0.0
			SS-5								
15		**BOTTOM OF BORING (15')**		15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 D1

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		SANDY CLAY, Dark Brown with Gray and Black Gravel, No Odor **(FILL)**	SS-1								9.6
1.7		Gray to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor									
3		No Recovery		5							
5		**BOTTOM OF BORING (5")**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 D3

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Black, Brown, and Red with **SANDY CLAY**, No Odor **(FILL)**	SS-1								0.1
2.3		Yellowish Brown **SANDY CLAY**, Medium Stiff, No Odor									
2.9		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 D4

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Gray, Red, and Brown, Sewage Odor	SS-1								1.8
1.2		No Recovery									
5		**BOTTOM OF BORING (5')**									

BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

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BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 D5

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours** /

Station : _____ **Offset :** _____ **Boring Depth:** 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Gray, Red, and Brown, with Sandy Clay, No Odor **(FILL)**	SS-1								1.0
2		Orangish Brown **SANDY CLAY**, Meidum Stiff, No Odor									
2.5		No Recovery									
5		**BOTTOM OF BORING (5"**		5							
				10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 D6

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Light Brown **SANDY CLAY**, with Gravel, Medium Stiff, Moist, No Odor									
1.1		**CONCRETE**									
1.5		Yellowish Orange **SANDY CLAY** with Gray Streaks, Stiff, Moist, No Odor	SS-1								0.2
4		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 D7

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rain 38°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 10.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Light Brown **SANDY CLAY**, Soft, Moist, No Odor									
0.7		Red **BRICK** Fragments, Loose, Moist, No Odor	SS-1								0.0
1.3		White to Light Gray **SAND**, (Concrete), Loose, Dry, Slight Odor									
2.3		No Recovery									
5		Pale Yellowish Orange **SANDY SILT**, Loose, Dry, Sewage Odog	SS-2	5							0.0
			SS-3								0.0
10		**BOTTOM OF BORING (10')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 D8

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Snow 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 10.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Light Brown **CLAYEY SAND**, Loose, Moist, No Odor									
0.8		Red **BRICK**	SS-1								0.0
2		Light Gray to White **SANDY CLAY** (Concrete), Loose, Slight Odor									
2.5		No Recovery		5							
5		Light Gray to White **SANDY CLAY**, Loose, Slight Odor									
5.7		Yellowish Orange **SANDY CLAY**, Medium Stiff, Moist, No Odor	SS-2								0.0
7.7		Reddish **SANDY CLAY**, Stiff, Moist, No Odor	SS-3								0.0
9.5		Yellowish Orange **SANDY CLAY**, Soft, Moist, No Odor		10							
10		**BOTTOM OF BORING 10'**									
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 E1

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		SANDY CLAY, with Gravel and Brick Fragments, Gray to Dark Brown, No Odor **(FILL)**	SS-1								0.8
1.5		Grayish Brown **SILTY CLAY**, Soft, No Odor									
2		No Recovery		5							
5		**BOTTOM OF BORING (5")**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 E3

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Red, Black, and Brown, with Glass Pieces, Slight Sewage Odor **(FILL)**	SS-1								16.2
1.5		Grayish Brown **SANDY CLAY**, Medium Stiff, No Odor									
2.5		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

POTESTA
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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 E4

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Gray and Brown with Glass and Sandy Clay, Slight Sewage Odor **(FILL)**	SS-1								0.4
2		Orangeish Brown **SANDY CLAY**, Meidum Stiff, No Odor									
2.4		No Recovery									
5		Orangeish Brown **SILTY CLAY**, Meidum Stiff, No Odor	SS-2	5							0.0
			SS-3								0.2
10		No Recovery		10							
				15							
15		**BOTTOM OF BORING (15')**									
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 E5

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 4.2 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Brown, Black, and Tan, with Sandy Clay, No Odor **(FILL)**	SS-1								0.0
2.3		Orangish Brown **SANDY CLAY**, Medium Stiff, No Odor	SS-2								0.0
4.2		**BOTTOM OF BORING (4.2')**		5 10 15 20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 E6

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Yellowish Orange **SANDY CLAY**, with Some Light Gray Mottling, Medium Stiff, Moist, No Odor	SS-1								0.1
2		Light Gray **SANDY CLAY**, Medium Stiff, Moist, No Odor									
3.4		Yellowish Orange **SILTY CLAY**, Stiff, Moist, No Odor	SS-2								0.1
5		Yellowish Orange **SILTY CLAY**, Stiff, Moist, No Odor, Some Gray Mottling Noted		5							
			SS-4								0.0
			SS-3								0.1
10		Yellowish Orange **SANDY CLAY**, Soft, Moist, No Odor		10							
			SS-5								0.1
			SS-6								0.1
15		**BOTTOM OF BORING (15')**		15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 E7

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 10.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Light Brown **SANDY CLAY**, Soft, Moist, No Odor									
0.5		Light Gray to White **SAND**, Loose, Dry, Sewage Odor	SS-1								2.0
2.4		No Recovery									
5		Yellowish Orange **SILTY CLAY**, with Red Tint, Soft, Moist, No Odor	SS-2	5							0.0
			SS-3								0.0
10		**BOTTOM OF BORING (10')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 E8

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Snow 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, No Odor									
0.5		Yellowish Orange **SILTY CLAY**, Medium Stiff, Moist, No Odor	SS-1								0.2
3.8		Yellowish Orange **SANDY CLAY**, Medium Stiff, Moist, No Odor	SS-2	5							0.0
5		Yellowish Orange, with Gray Mottling **SANDY CLAY**, Medium Stiff, Moist, No Odor									
6		Yellowish Orange **SANDY CLAY**, Soft, Moist, No Odor	SS-3								0.0
			SS-4	10							0.0
			SS-5								0.1
13.5		Yellowish Orange **CLAYEY SAND**, Soft, Moist, No Odor	SS-6	15							0.1
15		**BOTTOM OF BORING (15')**									
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 F1

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		GRAVEL									
0.5		**SANDY CLAY**, with Gravel, Brick Fragments and Glass, No Odor **(FILL)**	SS-1								6.3
2		Grayish Brown to Orangeish Brown **SILTY CLAY**, Meidum Stiff, No Odor									
3.5		No Recovery		5							
5		**BOTTOM OF BORING (5")**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 F2

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Gray, Brown, and Black, with Sandy Clay, with Glass, Light Sewer Odor **(FILL)**	SS-1								4.7
1.8		Light Brown **SANDY CLAY**, Medium Stiff, No Odor									
2.4		No Recovery									
5		Orangeish Brown **SANDY CLAY**, Medium Stiff, No Odor	SS-2	5							0.3
			SS-3								0.2
				10							
11		Orangeish Brown **SANDY CLAY**, Soft, No Odor Sandy Layers at 12.7' to 12.8' , 13.3' to 13.8', and 14.5' to 15'	SS-4								0.3
			SS-5								0.5
				15							
15		**BOTTOM OF BORING (15')**									
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 F3

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Tan, Gray, Black, and Brown, with Glass and Sandy Clay, Slight Sewage Odor **(FILL)**	SS-1								0.3
1.8		Light Brown **SANDY CLAY**, Medium Stiff, No Odor									
2.4		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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Telephone: 304-342-1400

BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 F4

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Gray, Brown, and Black, No Odor **(FILL)**	SS-1								0.3
1.8		Orangeish Brown **SANDY CLAY**, Medium Stiff, No Odor									
2.2		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 F5

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Brown **SANDY CLAY**, with Gravel and Brick Fragments, Soft, No Odor									
1		Orangeish Brown **SANDY CLAY**, Medium Stiff, No Odor	SS-1								0.5
			SS-2								0.3
4.3		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 F6

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 3.8 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Yellowish Orange **SANDY CLAY**, Medium Stiff, Moist, No Odor	SS-1								0.6
1.7		Yellowish Orange **SANDY CLAY**, Stiff, Moist, No Odor	SS-2								0.0
3.8		**BOTTOM OF BORING (3.8')**		5 10 15 20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 F7

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, No Odor									
0.5		Yellowish Orange **SANDY CLAY**, Medium Stiff, Moist, No Odor	SS-1								0.2
1.6		Yellowish Orange **CLAYEY SAND**, Soft, Moist, No Odor									
2.2		No Recovery									
				5							
5		**BOTTOM OF BORING (5')**									
				10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 F8

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Snow 34°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, No Odor									
0.5		Yellowish Orange **SANDY CLAY**, Medium Stiff, Moist, No Odor	SS-1								0.0
			SS-2	5							0.1
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

BORING METHOD

HSA	- Hollow Stem Auger
SFA	- Solid Flight Auger
CC	- Concrete Coring
MD	- Mud Drilling
HA	- Hand Auger
RC	- Rock Coring

SAMPLE TYPE

SS	- Split Spoon Sample
ST	- Shelby Tube Sample
RC	- Rock Core Sample
BS	- Bag Sample

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BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 G1

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, with Sandy Clay, with Brick Fragments and Glass, No Odor **(FILL)**	SS-1								16.5
1.5		Brown to Orangeish Brown **SILTY CLAY**, Soft to Medium Stiff, No Odor									
1.9		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-2	5							1.0
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 G2

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority **Project No. :** 0101-18-0317

Project Name : Flint Parcels 43 and 45 Sampling **Boring Method :** Geoprobe

Location : Huntington, West Virginia **Weather/ Temp. :** Sunny 35°

Start Date : 11-14-18 **Field Engineer/ Geologist :** Andrew Grimmett

Completion Date : 11-14-18 **Driller :** AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 1.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf
		Refusal at 1 Foot, Unable to Get Through at Several Areas Around Boring								
1		**BOTTOM OF BORING (1')**								

5

10

15

20

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 G3

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Gray, Black, and Tan, with Sandy Clay, No Odor **(FILL)**	SS-1								1.1
2.1		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-2								0.4
4		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 G4

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Brown to Orange Brown **SANDY CLAY**, Medium Stiff, with Gravel, No Odor									
1		Black to Dark Brown, Loose **SAND and GRAVEL**, No Odor **(FILL)**	SS-1								0.4
2.5		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-2	5							0.3
			SS-3								0.3
8		Orangeish Brown **SILTY CLAY**, Soft, No Odor	SS-4								0.3
10		Orangeish Brown **SANDY CLAY**, Soft, No Odor	SS-5	10							0.3
			SS-6								0.2
14		Light Brown, Fine **SAND**, No Odor									
		No Recovery		15							
14.5		**BOTTOM OF BORING (15')**									
15				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 G5
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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Light Brown **SANDY CLAY**, Soft, No Odor									
1.1		Orangish Brown **SANDY CLAY**, Medium Stiff, No Odor	SS-1								1.5
			SS-2	5							0.2
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 G6

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours** /

Station : _____ **Offset :** _____ **Boring Depth:** 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Yellowish Orange **SANDY CLAY**, Medium Stiff, Moist, No Odor	SS-1								2.5
1.3		Black **ASPHALT** / Red **BRICK**, with Some Yellowish Orange **SANDY CLAY**, Stiff, Moist, No Odor									
2		Yellowish Orange **SANDY CLAY**, Stiff, Moist, No Odor	SS-2								0.0
3.7		No Recovery		5							
5		Yellowish Orange **SANDY CLAY**, with Light Gray Mottling, Medium Stiff to Soft, Moist, No Odor	SS-3								0.1
			SS-4								0.2
10		Yellowish Orange **SILTY CLAY**, Soft, Moist, No Odor		10							
			SS-5								0.2
			SS-6								0.1
15		**BOTTOM OF BORING (15')**		15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 G7

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Overcast 32°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours** /

Station : _____ **Offset :** _____ **Boring Depth:** 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, No Odor									
0.5		Yellowish Orange **SANDY CLAY**, Soft, Moist, No Odor Brick Lens Noted at 1'	SS-1								0.0
2		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 G8

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rain 38°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours** /

Station : _____ **Offset :** _____ **Boring Depth:** 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, No Odor									
0.5		Yelowish Orange **SANDY CLAY**, Medium Stiff, Moist, No Odor	SS-1								0.1
			SS-2	5							0.1
5		Yelowish Orange **SANDY CLAY**, Soft, Moist, No Odor	SS-3								0.2
			SS-4	10							0.1
10		Yelowish Orange **SANDY CLAY**, Soft, Moist, No Odor Sand Lenses Noted at 13.6' to 13.7' and 14.5' to 15'	SS-5								0.1
			SS-6	15							0.1
15		**BOTTOM OF BORING (15')**		20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 H1

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		GRAVEL, with Sandy Clay, Gray to Dark Brown, No Odor **(FILL)**	SS-1								0.6
1.3		Brown to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor									
2.7		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 H2

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Summy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Gray, Brown, and Tan, No Odor **(FILL)**	SS-1								2.1
1.4		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-2								0.6
4.1		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 H3

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BORING LOG RECORD

Client : Huntington Municipal Development Authority **Project No. :** 0101-18-0317

Project Name : Flint Parcels 43 and 45 Sampling **Boring Method :** Geoprobe

Location : Huntington, West Virginia **Weather/ Temp. :** Cloudy 35°

Start Date : 11-14-18 **Field Engineer/ Geologist :** Andrew Grimmett

Completion Date : 11-14-18 **Driller :** AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 1.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf
		Refusal at 1 Foot, Brick and Concrete, Tried Offsetting Multiple Times								
1										

5

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15

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 H8

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rain 38°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, No Odor									
0.6		Yellowish Orange **SANDY CLAY**, Medium Stiff, Moist, No Odor Sandy Lens Noted from 4.5' to 4.7'	SS-1								0.1
			SS-2	5							0.1
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 I1

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 34°
Start Date : 11-16-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-16-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		SANDY CLAY, with Gravel, Brown to Gray, Trace Brick Fragments, No Odor **(FILL)**									
1.2		Brown to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								1.9
2.7		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 I2

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Brown, Black, and Gray, with Sandy Clay, No Odor **(FILL)**	SS-1								0.3
1.4		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-2								0.2
			SS-3	5							0.1
8.5		Orangeish Brown **SILTY CLAY**, Soft, No Odor Sandy Layers at 12.9' to 13.2' and 14.4' to 15'	SS-4								0.4
			SS-5	10							0.2
			SS-6								0.3
15		**BOTTOM OF BORING (15')**		15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 I3

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Loose **GRAVEL**, Gray, No Odor									
0.4		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								0.4
			SS-2	5							0.1
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

POTESTA

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P43 I8

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rain 38°
Start Date : 11-13-18
Field Engineer/ Geologist : Andrew Kirsch
Completion Date : 11-13-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 15.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Light Brown **SANDY CLAY**, with Gravel, Medium Stiff, Moist, No Odor									
1		Yellowish Orange **SANDY CLAY**, Medium Stiff, Moist, No Odor	SS-1								1.3
			SS-2								0.3
5		Yellowish Orange **SANDY CLAY**, Soft, Moist, No Odor		5							
			SS-3								0.2
			SS-4								0.1
				10							
11		Yellowish Orange **SANDY CLAY**, Very Soft, Wet, No Odor	SS-5								0.1
12		Yellowish Orange **SANDY CLAY**, Soft, Moist, No Odor									
13.3		Yellowish Orange **CLAYEY SAND**, Loose, Moist, No Odor	SS-6								0.0
13.8		Yellowish Orange **SANDY CLAY**, with Gray Mottling, Soft, Moist, No Odor		15							
15		**BOTTOM OF BORING (15')**									
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 A1

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 34°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		ASPHALT									
0.2		**GRAVEL**, with Clayey Sand, Gray with Brown, with Glass, No Odor									
0.9		**FILL)** Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								4.9
2.6		No Recovery		5							
5		<<B>BOTTOM OF BORING (5')		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 A2
PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 34°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		ASPHALT									
0.2		**GRAVEL**, with Sandy Clay, Gray, Brown, and Red, with Glass, No Odor									
1.1		Brown to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								2.1
			SS-2	5							0.6
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

BORING METHOD

HSA	- Hollow Stem Auger
SFA	- Solid Flight Auger
CC	- Concrete Coring
MD	- Mud Drilling
HA	- Hand Auger
RC	- Rock Coring

SAMPLE TYPE

SS	- Split Spoon Sample
ST	- Shelby Tube Sample
RC	- Rock Core Sample
BS	- Bag Sample

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BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 A3

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 34°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours** /

Station : _____ **Offset :** _____ **Boring Depth:** 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		ASPHALT									
0.2		**GRAVEL**, with Gray, Sandy Clay, Slight Odor									
0.9		Brown to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								2.0
3.5		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 A4

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 34°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Brown **SILTY CLAY**, Soft, with Roots, No Odor									
0.6		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								1.1
			SS-2	5							0.9
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 A5

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 34°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		Brown **SILTY CLAY**, Soft, with Trace Roots, No Odor									
1.1		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								1.5
			SS-2	5							0.7
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 B1

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 34°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT** **SANDY CLAY**, with Gravel, Briwk, and Glass Fragments, Slight Odor **(FILL)**	SS-1								1.8
2.3		Grayish Brown **SILTY CLAY**, Medium Stiff, No Odor									
2.5		No Recovery									
				5							
5		**BOTTOM OF BORING (5')**									
				10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 B2

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 34°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		ASPHALT									
0.2		**GRAVEL**, with Brown Silty Clay **(FILL)**, nO oDOR									
1		Gray to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								0.9
			SS-2								0.9
4.5		No Recovery		5							
5		**BOTTOM OF BORING (5')**									
				10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 B3
PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT**									
0.7		Loose **GRAVEL**, Gray, No Odor									
		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								4.7
			SS-2	5							1.5
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 B4

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		ASPHALT									
0.2		**GRAVEL**, No Odor									
0.4		Orangeish Brown to Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								0.9
2.3		No Recovery		5							
5		**BOTTOM OF BORING ((5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 B5

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT**									
		GRAVEL, No Odor									
0.4		Brown to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								3.6
			SS-2	5							1.1
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 C1

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT**									
		GRAVEL, with Sandy Clay, Gray and Brown, Slight Odor **(FILL)**									
0.8		Gray to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								0.8
			SS-2								0.4
4		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 C2

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT**	SS-1								0.5
		GRAVEL, Gray with Brick Fragments, Slight Odor									
0.6		Brown **SILTY CLAY**, Medium Stiff, No Odor									
1.1		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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Telephone: 304-342-1400

BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 C3

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BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		ASPHALT									
0.3		Loose **GRAVEL**, Gray, No Odor									
1.2		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								4.6
			SS-2								0.7
4.3		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 C4
PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT**									
		GRAVEL									
0.4		Grayish Brown to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								1.3
			SS-2	5							0.7
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

POTESTA
7012 MacCorkle Ave., SE
Charleston, WV 25304
Telephone: 304-342-1400

BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 C5

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 33°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT**									
		GRAVEL, No Odor									
0.4		Grayish Brown to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								2.5
			SS-2	5							0.9
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

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Telephone: 304-342-1400

BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 D2

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Rainy 34°
Start Date : 11-15-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-15-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT**									
0.4		**GRAVEL**, No Odor									
		Brown to Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								1.3
			SS-2								0.2
5		**BOTTOM OF BORING (5')**		5							
				10							
				15							
				20							

POTESTA
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Telephone: 304-342-1400

BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 D3

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Sunny 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		ASPHALT									
0.2		Loose **GRAVEL**, Gray, No Odor	SS-1								8.2
0.9		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor									
1.8		No Recovery		5							
5		**BOTTOM OF BORING (5')**		10							
				15							
				20							

POTESTA
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Telephone: 304-342-1400

BORING METHOD		SAMPLE TYPE	
HSA	Hollow Stem Auger	SS	Split Spoon Sample
SFA	Solid Flight Auger	ST	Shelby Tube Sample
CC	Concrete Coring	RC	Rock Core Sample
MD	Mud Drilling	BS	Bag Sample
HA	Hand Auger		
RC	Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 D4

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation :
Benchmark/Elev. :
Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**
Station :
Offset :
Boring Depth: 5.0 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
0.2		**ASPHALT**									
		GRAVEL, Gray, No Odor									
0.5		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								6.8
			SS-2								12.8
4.5				5							
5		**BOTTOM OF BORING (5')**									
		No Recovery		10							
				15							
				20							

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Telephone: 304-342-1400

BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

BORING NO. P45 D5

PAGE 1 OF 1

BORING LOG RECORD

Client : Huntington Municipal Development Authority
Project No. : 0101-18-0317
Project Name : Flint Parcels 43 and 45 Sampling
Boring Method : Geoprobe
Location : Huntington, West Virginia
Weather/ Temp. : Cloudy 35°
Start Date : 11-14-18
Field Engineer/ Geologist : Andrew Grimmett
Completion Date : 11-14-18
Driller : AZONE

Surface Elevation : _____ **Benchmark/Elev. :** _____

Water Level Observations : ▽ **Immediate :** ▼ **At completion/# hours /**

Station : _____ **Offset :** _____ **Boring Depth:** 4.5 Ft.

Stratum Elevation/ Depth (ft.)	Lithology	Soil/Rock Description	Sample Type /Number	Sample Depth	SPT Blows	N-Value	Moisture (%)	Recovery (%)	RQD (%)	Unconf. Comp., Tsf	PID (ppm)
		ASPHALT									
0.2		**GRAVEL**, Gray, No Odor									
		Grayish Brown **SILTY CLAY**, Medium Stiff, No Odor	SS-1								11.3
0.6		Orangeish Brown **SILTY CLAY**, Medium Stiff, No Odor									
1.2			SS-2								3.7
4.5		**BOTTOM OF BORING (4.5')**		5							
				10							
				15							
				20							

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Charleston, WV 25304
Telephone: 304-342-1400

BORING METHOD		SAMPLE TYPE	
HSA	- Hollow Stem Auger	SS	- Split Spoon Sample
SFA	- Solid Flight Auger	ST	- Shelby Tube Sample
CC	- Concrete Coring	RC	- Rock Core Sample
MD	- Mud Drilling	BS	- Bag Sample
HA	- Hand Auger		
RC	- Rock Coring		

BORING LOG RECORD 0101-18-0317.GPJ APPALACHIAN AGGREGATES LIMESTONE TEMPLATE.GDT 11/27/18

ELM LOGS

ELM Site Solutions, Inc.
P. O. Box 97607
Raleigh, NC 27624

BORING NUMBER TMW-19 / AOC11-01

CLIENT BASF
PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER
PROJECT LOCATION Huntington, West Virginia
DATE STARTED 8/1/16 **COMPLETED** 8/1/16
TOC ELEVATION 547.2 ft **HOLE SIZE** 3.5 IN
DRILLING CONTRACTOR EnviroProbe
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING —
LOGGED BY T. Taylor **CHECKED BY** J. Odom
AT END OF DRILLING —
NOTES
AFTER DRILLING —

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0					(OL) Dark brown and gray silt with slag (FILL) 546.7	
					(CL) Reddish brown silty clay, moist, cohesive.	
5						
10						
					14.0 533.2	
15					(SP) Yellowish red to light brown fine sand with fine sandy clay layers, moist	
					19.0 528.2	
20					(SP) Dark gray very fine sand, trace to little clay, wood fragments, wet.	
					21.0 526.2	
					Dark gray peat (Pt), moist.	
					23.0 524.2	
25					(SP) Light brown to grayish brown fine sand, trace to little fine to medium rounded gravel, moist (ALLUVIUM).	
					29.0 518.2	
30					30.0 (GC) Light brownish gray clayey fine to coarse sand and gravel, wet 517.2	

(Continued Next Page)

ENVIRONMENTAL BH - GINT STD US.GDT - 12/19/16 20:34 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\BASF HUNTINGTON DATA GAP (SEPT. 2016) - TOM3.GPJ

ELM Site Solutions, Inc.
P. O. Box 97607
Raleigh, NC 27624

BORING NUMBER TMW-19 / AOC11-01

CLIENT BASF **PROJECT NAME** Former BASF Huntington Works Facility

PROJECT NUMBER **PROJECT LOCATION** Huntington, West Virginia

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
					Bottom of borehole at 30.0 feet.	

ENVIRONMENTAL BH - GINT STD US.GDT - 12/19/16 20:34 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\BASF HUNTINGTON DATA GAP (SEPT. 2016) - TOM3.GPJ

ELM Site Solutions, Inc.
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Raleigh, NC 27624

BORING NUMBER TMW-20 / AOC11-02

CLIENT BASF
PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER
PROJECT LOCATION Huntington, West Virginia
DATE STARTED 8/1/16 **COMPLETED** 8/1/16
TOC ELEVATION 547.51 ft **HOLE SIZE** 3.5 IN
DRILLING CONTRACTOR EnviroProbe
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING —
LOGGED BY T. Taylor **CHECKED BY** J. Odom
AT END OF DRILLING —
NOTES
AFTER DRILLING —

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						
					0.5 (OL) Dark gray sandy silt and gravel (FILL) 547.0	
					(CH) Light brown to yellowish red plastic clay, moist, cohesive.	
5						
10						
15					16.0 531.5	
					(CL) Strong brown very fine sandy clay, wet, cohesive.	
					18.0 529.5	
					(SP) Strong brown fine sand, moist. 19.0 528.5	
20					(CL) Gray clay, trace to some very fine sand, few layers of peat, wet, cohesive.	
					24.0 523.5	
25					(SP) Reddish yellow fine sand, trace to little clay, wet. 25.0 522.5	

Bottom of borehole at 25.0 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 12/19/16 20:34 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\BASF HUNTINGTON DATA GAP (SEPT. 2016) - TOM3.GPJ

ELM Site Solutions, Inc.
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Raleigh, NC 27624

BORING NUMBER TMW-21 / AOC11-03

CLIENT BASF
PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER
PROJECT LOCATION Huntington, West Virginia
DATE STARTED 8/2/16 **COMPLETED** 8/2/16
TOC ELEVATION 548.58 ft **HOLE SIZE** 3.5 IN
DRILLING CONTRACTOR EnviroProbe
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING ---
LOGGED BY T. Taylor **CHECKED BY** J. Odom
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0					0.5 548.1	
5						
10						
15						
20						
25						
30						

ENVIRONMENTAL BH - GINT STD US.GDT - 12/19/16 20:34 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\BASF HUNTINGTON DATA GAP (SEPT. 2016) - TOM3.GPJ

WELL LOG

Well No.:	**TMW-1D**	Date:	6/25/02	Permit Number:	WV00226-0022-02
Project Name:	BASF	ELM Inspector:	K. Pollack	Boring Method:	Hollow Stem Auger
Project Location:	Huntington, WV	Total Well Depth (ft):	53.5	Sampler Type:	Straight Augering
Project No.:	99184	Depth to Groundwater (ft):	40	Drilling Contractor:	Triad M. Lupardis

Blow Counts or Rate	% Recovery	Soil Type Symbol	Soil Description/Observations	Depth ft (0.1)	Sample	PID (ppm)	Completion
			ASPHALT/ROADSTONE				
			No lithology described				
			No lithology described	5		0	
			No lithology described	10		0	
			Br Silty CLAY; damp, no odor, pliable, sticky	15		0	
			Br Silty CLAY; damp, no odor, pliable, sticky	20		0	
			Gy-Br Silty CLAY, trace f Sand; damp, no odor, pliable, sticky	25		0	
			Gy-Br Silty CLAY, trace f Sand; no odor				
			Br Silty CLAY, trace f Sand; occasional cobbles, no odor	30		0	
			Br f-m SAND, some Silt; no odor, wet, occasional cobbles	35		0	
			Br f-m SAND, some Silt; few cobbles, no odor, wet to saturated	40		0	
			Br m-f SAND, some Silt; few cobbles, no odor, saturated, whipped-loamy	45		0	
			Br m-f SAND, trace Silt; no odor, saturated, few cobbles	50		0	
			Br m-f SAND, trace Silt; no odor, saturated	55		0	
			Br f-m SAND, trace Silt; no odor, saturated			0	

Notes:

No samples collected.
Top of casing elevation is 548.23 ft MSL.
"Running Sands" a bit more silty with trace/some cobbles. Not just fine sand as with other locations.
10' Screen - 53.5' total depth
Well kept rising up due to running sand.
Flush mount surface

Abbreviation Legend:

f - fine	Or - Orange
m - medium	Gy - Gray
c - coarse	Gr - Green
Bl - Black	Lt - Light
Br - Brown	Dk - Dark

WELL LOG

Well No.:	**TMW-9D**	Date:	6/26/02	Permit Number:	WV00226-0021-02
Project Name:	BASF	ELM Inspector:	K. Pollack	Boring Method:	Hollow Stem Auger
Project Location:	Huntington, WV	Total Well Depth (ft):	54.5	Sampler Type:	Straight Augering
Project No.:	99184	Depth to Groundwater (ft):	35	Drilling Contractor:	Triad M. Lupardis

Blow Counts or Rate	% Recovery	Soil Type Symbol	Soil Description/Observations	Depth ft (0.1)	Sample	PID (ppm)	Completion
			GRAVEL No lithology described				
			No lithology described	5		0	
			No lithology described	10		0	
			Br Silty CLAY; no odor, pliable	15		0	
			Br Silty CLAY, trace f Sand; no odor	20		0	
			Br m-f SAND, trace Silt; no odor	25		0	
			Br m-f SAND, trace Silt; no odor, moist	30		0	
			Br f SAND, trace c-m Gravel, trace Silt; running sands, no odor, saturated	35		0	
			Br f SAND, trace c-m Gravel, trace Silt; running sands, no odor, saturated	40		0	
			Br f SAND, some Silt, trace c-m Gravel; running sands, occasional rounded cobbles, saturated, no odor	45		0	
			Br f SAND, some Silt, trace c-m Gravel; running sands, occasional rounded cobbles, saturated, no odor	50		0	
			Br f SAND, some Silt, trace c-m Gravel; running sands, occasional rounded cobbles, saturated, no odor	55		0 0	

Notes:
Bedrock at 57.5'
Total depth 54.5' bgs.
Screen 10'
Stick-up Well
No samples collected

Abbreviation Legend:

f - fine	Or - Orange
m - medium	Gy - Gray
c - coarse	Gr - Green
Bl - Black	Lt - Light
Br - Brown	Dk - Dark

THE ELM GROUP

Princeton, New Jersey
Hollcong, Pennsylvania
Bethlehem, Pennsylvania
New York, New York
Boonton, New Jersey

MONITORING WELL TMW-12D

PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER 099184
LOCATION 5th Avenue & 24th Street Huntington West Virginia
DRILLING METHOD Hollow Stem Auger
BOREHOLE DIAMETER 8-inch
SAMPLING METHOD Macrocore / Split Spoon
LOGGED BY Brad Mescavage
PERMIT # WV00271-0017-09

DATE STARTED 7/7/09
DATE COMPLETED 7/7/09
CASING TYPE/DIAMETER PVC
SCREEN TYPE/SLOT 4" PVC 10 Slot Screen
GRAVEL PACK TYPE Medium Sand
SEAL TYPE Cement
GROUT TYPE Bentonite
DEPTH TO WATER (ft BGS) 22.23

PID (ppm)	BLOW COUNTS	RECOVERY (feet)	CORE	ENV SAMPLE	DEPTH (ft. BGS)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
0		5	AU 1		1–5		GRAVEL (dry) Br, Or-Br silty CLAY (dry) (soft)	0.5 5.0
0		5	MC 2		5–10		Brown, Orange Brown silty CLAY, trace gray mottled clay (moist)	10.0
0		5	MC 3		10–15		Brown silty CLAY, trace f sand (moist) Brown f-m SAND (dry) Brown, Red-Brown mottled silty CLAY (moist)	11.5 11.7 15.0
0		5	MC 4		15–20		Brown f-m SAND (dry) Brown silty f-m SAND (dry) Brown silty CLAY, some f-m sand (dry) Brown, Orange-Brown, Gray f-m SAND, some silt (wet) Gray CLAY (wet)	15.6 16.5 17.4 18.7 20.0
0		3.5	MC 5		20–25		Orange-Brown f-m SAND, trace c sand (dry) Orange-Brown f-c SAND (wet) Gray f-c SAND, trace gravel (wet) No Recovery	21.5 23.2 23.5 25.0
0		4	MC 6		25–30		Gray f-c SAND (wet) GRAVEL (wet) Brown, Orange-Brown f-c SAND, some s-m gravel (wet) No Recovery	26.5 26.7 29.2 30.0

WELL DIAGRAM: Cement Seal; 4" PVC Riser

ELM WELL CONSTRUCTION LOG - ELM DATA TEMPLATE.GDT - 5/13/10 10:27 - C:\PHASE II RFI BORING LOGS NEW.GPJ

THE ELM GROUP

Princeton, New Jersey
Hollcong, Pennsylvania
Bethlehem, Pennsylvania
New York, New York
Boonton, New Jersey

MONITORING WELL TMW-12D

PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER 099184
LOCATION 5th Avenue & 24th Street Huntington West Virginia
DRILLING METHOD Hollow Stem Auger
BOREHOLE DIAMETER 8-inch
SAMPLING METHOD Macrocore / Split Spoon
LOGGED BY Brad Mescavage
PERMIT # WV00271-0017-09

DATE STARTED 7/7/09
DATE COMPLETED 7/7/09
CASING TYPE/DIAMETER PVC
SCREEN TYPE/SLOT 4" PVC 10 Slot Screen
GRAVEL PACK TYPE Medium Sand
SEAL TYPE Cement
GROUT TYPE Bentonite
DEPTH TO WATER (ft BGS) 22.23

PID (ppm)	BLOW COUNTS	RECOVERY (feet)	CORE	ENV SAMPLE	DEPTH (ft. BGS)	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0		3.5	MC 7		31–33		Brown f-c SAND, some s-l gravel (wet)		
					33–34		No Recovery	33.5	
0		5	MC 8		35–38		Brown, Dark Brown f-m SAND (wet)	35.0	
					38–39		Brown, Dark Brown f-c SAND, some s-m gravel (wet)	38.5	
					40–42		Brown, Dark Brown f-c SAND, trace gravel (wet)	40.0	
0		2.5	MC 9		42–45		No Recovery	42.2	Bentonite Grout
					45–46		Dark Brown f-c SAND, trace coal fragments (wet)	45.0	
0		1.5	MC 10		46–50		No Recovery	46.6	4" PVC Screen
		0	MC 11		50–54				
					54		Bottom of borehole at 54.5 feet.	54.5	

ELM WELL CONSTRUCTION LOG - ELM DATA TEMPLATE.GDT - 5/13/10 10:27 - C:\PHASE II RFI BORING LOGS NEW.GPJ

ELM Site Solutions, Inc.
P. O. Box 97607
Raleigh, NC 27624

BORING NUMBER TMW-26

CLIENT BASF
PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER
PROJECT LOCATION Huntington, West Virginia
DATE STARTED 8/10/16 **COMPLETED** 8/12/16
TOC ELEVATION 547.64 ft **HOLE SIZE** 6.0 IN
DRILLING CONTRACTOR EnviroProbe
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING ---
LOGGED BY T. Taylor **CHECKED BY** J. Odom
AT END OF DRILLING —
NOTES
AFTER DRILLING 24.98 ft / Elev 522.66 ft TOC (08/29/2016)

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION (Casing Top Elev: 547.64 (ft), Casing Type: PVC)	WELL DIAGRAM
0					0.4 Asphalt and subbase — 547.2	Flush-mount manhole with steel lid; Grout
5	DP-1				(CH) Yellowish red plastic clay, moist	
10	DP-2		PID = 0.1 PID = 0.2		9.0 — 538.6 (CL-ML) Yellowish red silty clay, moist, cohesive	
15	DP-3		PID = 0.3 PID = 0.4		14.0 — 533.6 (CL) Yellowish red very fine sandy clay, moist	Bentonite Seal; 2" Sch. 40 PVC riser
20	DP-4		PID = 0.4 PID = 0.4		19.0 — 528.6 (SP) Yellowish red fine sand, trace to little clay, moist (ALLUVIUM)	
25	DP-5		PID = 0.4 PID = 0.8		21.0 — 526.6 (CL) Light brown very fine sandy clay, wet (ALLUVIUM) 23.5 — 524.1 (SP) Yellowish red fine sand, wet (ALLUVIUM)	
30	DP-6		PID = 0.6		29.0 — 518.6 (GW) Yellowish red fine to coarse sand and gravel, rounded, trace clay, wet (ALLUVIUM)	Sand Pack; 2" pre-packed well screen
35	DP-7				35.0 — 512.6	

Bottom of borehole at 35.0 feet.

ENVIRONMENTAL BH - GINT STD US.GDT - 12/19/16 20:34 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\BASF HUNTINGTON DATA GAP (SEPT. 2016) - TOM3.GPJ

ELM Site Solutions, Inc.
P. O. Box 97607
Raleigh, NC 27624

BORING NUMBER TMW-27

CLIENT BASF
PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER
PROJECT LOCATION Huntington, West Virginia
DATE STARTED 8/10/16 **COMPLETED** 8/12/16
TOC ELEVATION 547.28 ft **HOLE SIZE** 6.0 IN
DRILLING CONTRACTOR EnviroProbe
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING —
LOGGED BY T. Taylor **CHECKED BY** J. Odom
AT END OF DRILLING —
NOTES
AFTER DRILLING 24.64 ft / Elev 522.64 ft TOC (08/29/2016)

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION (Casing Top Elev: 547.28 (ft), Casing Type: PVC)	WELL DIAGRAM
0					0.5 Asphalt and subbase (546.8)	Flush-mount manhole with steel lid; Grout
5	DP-1				(CH) Yellowish red plastic clay, moist	
10	DP-2		PID = 0.4 PID = 0.1		9.0 (538.3)	
15	DP-3		PID = 0.2 PID = 0.3		(CL-ML) Yellowish red silty clay, moist, cohesive 12.0 (535.3) (CL) Yellowish red very fine sandy clay, moist, cohesive 13.0 (534.3) (CL-ML) Yellowish red silty clay, moist, cohesive 14.0 (533.3)	Bentonite Seal 2" Sch. 40 PVC riser
20	DP-4		PID = 0.3 PID = 0.1		(CL) Yellowish red very fine sandy clay, moist, cohesive 18.5 (528.8)	
25	DP-5		PID = 0.2 PID = 0.7		(SP-SC) Yellowish red fine sand, trace to some clay, moist (ALLUVIUM) 25.0 (522.3)	
30	DP-6		PID = 0.6		(SP) Light brown fine sand, wet (ALLUVIUM) 29.0 (518.3)	Sand Pack 2" pre-packed well screen
35	DP-7				(GW) Yellowish red fine to coarse sand and fine to medium gravel, rounded, wet (ALLUVIUM) 34.0 (513.3) (SP) Brown fine sand, trace fine to medium gravel, wet 35.0 (512.3)	

Bottom of borehole at 35.0 feet.

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ELM Site Solutions, Inc.
P. O. Box 97607
Raleigh, NC 27624

BORING NUMBER TMW-28

CLIENT BASF
PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER
PROJECT LOCATION Huntington, West Virginia
DATE STARTED 8/10/16 **COMPLETED** 8/15/16
TOC ELEVATION 547.45 ft **HOLE SIZE** 6.0 IN
DRILLING CONTRACTOR EnviroProbe
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING —
LOGGED BY J. Odom **CHECKED BY** T. Taylor
AT END OF DRILLING —
NOTES
AFTER DRILLING 24.85 ft / Elev 522.60 ft TOC (08/29/2016)

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION (Casing Top Elev: 547.45 (ft), Casing Type: PVC)		WELL DIAGRAM
0							
	DP-1				0.5 Asphalt and subbase	547.0	Flush-mount manhole with steel lid; Grout
5					(CH) Yellowish red plastic clay, moist		
	DP-2		PID = 0.2				
10			PID = 0.1		9.0	538.5	
	DP-3		PID = 0.1		(CL-ML) Yellowish red silty clay, moist		Bentonite Seal; 2" Sch. 40 PVC riser
			PID = 0.3		12.0 (CL) Yellowish red very fine sandy clay, moist, cohesive	535.5	
15					13.0 (CL-ML) Yellowish red silty clay, moist	534.5	
	DP-4		PID = 0.3		14.0 (CL) Yellowish red very fine sandy clay, moist, cohesive	533.5	
			PID = 0.3		17.0 (SP) Yellowish red fine sand, moist	530.5	
20			PID = 0.2		18.0 (CL) Yellowish red fine sandy clay, moist, cohesive	529.5	
	DP-5		PID = 0.3		22.0 (SP) Yellowish red fine sand, moist (ALLUVIUM)	525.5	
25			PID = 4.1		▼		
	DP-6				27.5 (GW) Light brown fine sand and fine to medium gravel, rounded, wet (ALLUVIUM)	520.0	Sand Pack; 2" pre-packed well screen
30							
	DP-7				33.0 (SP) Brown fine sand, trace fine to medium gravel, wet (ALLUVIUM)	514.5	
35					35.0	512.5	

Bottom of borehole at 35.0 feet.

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ELM Site Solutions, Inc.
P. O. Box 97607
Raleigh, NC 27624

BORING NUMBER TMW-29

CLIENT BASF
PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER
PROJECT LOCATION Huntington, West Virginia
DATE STARTED 8/11/16 **COMPLETED** 8/15/16
TOC ELEVATION 547.47 ft **HOLE SIZE** 6.0 IN
DRILLING CONTRACTOR EnviroProbe
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING ---
LOGGED BY T. Taylor **CHECKED BY** J. Odom
AT END OF DRILLING ---
NOTES
AFTER DRILLING 24.93 ft / Elev 522.54 ft TOC (08/29/2016)

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION (Casing Top Elev: 547.47 (ft), Casing Type: PVC)	WELL DIAGRAM
0					0.5 Asphalt and subbase 547.0	Flush-mount manhole with steel lid, Grout
5	DP-1				(CH) Yellowish red plastic clay, moist	
10	DP-2		PID = 4.5 PID = 4.6		9.0 538.5	
15	DP-3		PID = 4.4 PID = 4.2		(CL-ML) Yellowish red silty clay, moist, cohesive 13.0 534.5	Bentonite Seal, 2" Sch. 40 PVC riser
					(CL) Yellowish red very fine sandy clay, few thin layers of clayey fine sand (SC), moist to wet, 15.0 532.5	
20	DP-4		PID = 2.3 PID = 4.4		(SP) Yellowish red fine sand, trace to little clay, moist (ALLUVIUM) 17.5 530.0 (CL) Yellowish red very fine sandy clay, moist (ALLUVIUM) 19.0 528.5 (CL) Gray very fine sandy clay, moist (ALLUVIUM)	
25	DP-5		PID = 5.5 PID = 5.7		23.0 524.5	
					(SP) Gray fine sand, moist (ALLUVIUM) -Yellowish red at 24' 25.0 522.5	
30	DP-6		PID = 6.3		(GW) Brown and yellowish red fine to coarse sand and gravel, rounded, trace clay, wet (ALLUVIUM)	Sand Pack, 2" pre-packed well screen
35	DP-7				35.0 512.5	

Bottom of borehole at 35.0 feet.

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ELM Site Solutions, Inc.
P. O. Box 97607
Raleigh, NC 27624

BORING NUMBER TMW-30

CLIENT BASF
PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER
PROJECT LOCATION Huntington, West Virginia
DATE STARTED 8/11/16 **COMPLETED** 8/15/16
TOC ELEVATION 547.37 ft **HOLE SIZE** 6.0 IN
DRILLING CONTRACTOR EnviroProbe
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING ---
LOGGED BY T. Taylor **CHECKED BY** J. Odom
AT END OF DRILLING —
NOTES
AFTER DRILLING 24.91 ft / Elev 522.46 ft TOC (08/29/2016)

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION (Casing Top Elev: 547.37 (ft), Casing Type: PVC)	WELL DIAGRAM
0				0.4	Asphalt and subbase — 547.0	Flush-mount manhole with steel lid; Grout
5	DP-1				(CH) Yellowish red plastic clay, moist	
10	DP-2		PID = 3 PID = 4.5	9.5	537.9	
15	DP-3		PID = 12.5 PID = 7.2		(CL) Yellowish red very fine sandy clay, moist - wet in clayey sand zones (SC) between 10' and 14' - fine sand layers (SP) at 16.5' to 17' and 18.5' to 19', moist	Bentonite Seal; 2" Sch. 40 PVC riser
20	DP-4		PID = 13 PID = 3.2	19.5	527.9	
25	DP-5		PID = 6 PID = 5.9	25.0 ▽	(SP) Yellowish red fine sand, trace fine to medium gravel, rounded, moist (ALLUVIUM) — 522.4	
30	DP-6		PID = 6.3		(GW) Yellowish red fine to medium sand and fine to coarse gravel, rounded, wet (ALLUVIUM)	Sand Pack; 2" pre-packed well screen
35	DP-7			35.0	512.4	

Bottom of borehole at 35.0 feet.

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ELM Site Solutions, Inc.
P. O. Box 97607
Raleigh, NC 27624

BORING NUMBER TMW-31

CLIENT BASF
PROJECT NAME Former BASF Huntington Works Facility
PROJECT NUMBER
PROJECT LOCATION Huntington, West Virginia
DATE STARTED 8/11/16 **COMPLETED** 8/15/16
TOC ELEVATION 546.9 ft **HOLE SIZE** 6.0 IN
DRILLING CONTRACTOR EnviroProbe
GROUND WATER LEVELS:
DRILLING METHOD Direct Push
AT TIME OF DRILLING —
LOGGED BY T. Taylor **CHECKED BY** J. Odom
AT END OF DRILLING —
NOTES
AFTER DRILLING 24.41 ft / Elev 522.49 ft TOC (08/29/2016)

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	ENVIRONMENTAL DATA	GRAPHIC LOG	MATERIAL DESCRIPTION (Casing Top Elev: 546.9 (ft) Casing Type: PVC)	WELL DIAGRAM
0				0.5	Asphalt and subbase 546.4	Flush-mount manhole with steel lid; Grout
5	DP-1				(CH) Yellowish red plastic clay, moist	
10	DP-2		PID = 1 PID = 2.8	9.5	537.4	
			PID = 2.3	10.5	(CL) Yellowish red very fine sandy clay, moist, cohesive 536.4	
15	DP-3		PID = 3.3	15.0	(CL-ML) Yellowish red silty clay, moist, cohesive 531.9	Bentonite Seal; 2" Sch. 40 PVC riser
20	DP-4		PID = 2.1 PID = 4.5	20.0	(CL) Yellowish red very fine sandy clay with layers of fine sand (SP), moist (ALLUVIUM) 526.9	
25	DP-5		PID = 3.7	25.0 ▽	(SP) Yellowish red fine sand, moist (ALLUVIUM) - some fine to coarse gravel at 24' 521.9	
30	DP-6		PID = 3.5		(GW) Strong brown fine to medium sand and fine to coarse gravel, trace clay, wet (ALLUVIUM)	Sand Pack; 2" pre-packed well screen
35	DP-7			35.0	511.9	

Bottom of borehole at 35.0 feet.

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APPENDIX D

Table 1. Soil Boring Summary
Planned Marshall University Baseball Stadium Site
Huntingon, Cabell County, West Virginia

Soil Boring ID	Date Drilled	Depth	Notes	Highest PID Reading (ppm-v/v)
Parcel 43				
P43-A1	11/16/2018	5	Slight odor from 2.1' - 2.6'	0.4
P43-A2	**11/16/2018**	**15**	**Slight odor from 0.2' - 2.5' Sample submited from 0 - 3'**	**2.1**
P43-A3	11/16/2018	5		0.7
P43-A4			Omitted from original plan due to builidng location	
P43-A5			Omitted from original plan due to builidng location	
P43-A6			Omitted from original plan due to builidng location	
P43-A7	11/16/2018	5	Slight sewage like odor from 0' - 2.8'	4.8
P43-A8	11/16/2018	15		0.7
P43-B1	11/16/2018	5		10.4
P43-B2	11/16/2018	5		9
P43-B3	11/16/2018	5		0.7
P43-B4			Omitted from original plan due to builidng location	
P43-B5			Omitted from original plan due to builidng location	
P43-B6	**11/13/2018**	**2**	**Green layer 0.3' - 0.5' Sample submited from 0 - 2 '**	**0**
P43-B7	11/13/2018	5		0.2
P43-B8	11/13/2018	5		0
P43-C1	11/16/2018	5		0.7
P43-C2			Omitted from original plan due to builidng location	
P43-C3			Omitted from original plan due to builidng location	
P43-C4			Omitted from original plan due to builidng location	
P43-C5			Omitted from original plan due to builidng location	
P43-C6	11/13/2018	15		0.2
P43-C7	11/13/2018	5		0
P43-C8	11/13/2018	15	White to light gray material from 1.8' - 7.5' Slight odor from 1.8' - 7.5'	0
P43-D1	11/16/2018	5		9.6
P43-D2			Omitted from original plan due to builidng location	
P43-D3	11/14/2018	5		0.1
P43-D4	11/14/2018	5	Sewage like odor, 0' - 1.2'	1.8
P43-D5	11/14/2018	5		1
P43-D6	11/13/2018	5		0.2
P43-D7	**11/13/2018**	**10**	**White to pale yellowish orange material from 1.3 - 10' Slight sewage like odor from 5' - 10'. Sample Submited from 5' - 7.5'**	**0**
P43-D8	11/13/2018	10	White to light gray material from 2' - 7' Slight sewage like odor from 2' - 7'	0
P43-E1	11/16/2018	5		0.8
P43-E2			Omitted from original plan due to builidng location	
P43-E3	**11/14/2018**	**5**	**Slight sewage like odor from 0' - 1.5'. Sample submited from 0 - 2.5'**	**16.2**
P43-E4	11/14/2018	15	Slight sewage like odor from 0' - 2'	0.4
P43-E5	11/14/2018	4.2		0
P43-E6	11/13/2018	15		0.1
P43-E7	11/13/2018	10	White to light gray material from 0.5' - 2.4' Slight sewage like odor from 0.5' - 2.4'	2
P43-E8	11/13/2018	15		0.2
P43-F1	11/16/2018	5		6.3
P43-F2	**11/14/2018**	**15**	**Slight sewage like odor from 0 - 1.8'. Sample submited from 0 - 2.4'**	**4.7**
P43-F3	11/14/2018	5	Slight sewage like odor from 0 - 1.8'	0.3
P43-F4	11/14/2018	5		0.3
P43-F5	11/14/2018	5		0.5

Table 1. Soil Boring Summary
Planned Marshall University Baseball Stadium Site
Huntingon, Cabell County, West Virginia

Soil Boring ID	Date Drilled	Depth	Notes	Highest PID Reading (ppm-v/v)
P43-F6	11/13/2018	3.8		0.6
P43-F7	11/13/2018	5		0.2
P43-F8	11/13/2018	5		0.1
P43-G1	11/16/2018	5		16.5
P43-G2	11/14/2018	1	Refusal at 1 foot, tried offsetting several areas around boring	
P43-G3	11/14/2018	5		1.1
P43-G4	11/14/2018	15		0.4
P43-G5	11/14/2018	5		1.5
P43-G6	11/13/2018	15		2.5
P43-G7	11/13/2018	5		0
P43-G8	11/13/2018	15		0.2
P-43-H1	11/16/2018	5		0.6
P-43-H2	11/14/2018	5		2.1
P-43-H3	11/14/2018	1	Refusal at 1 foot, tried offsetting several areas around boring. Brick and concrete in end of tube	
P-43-H4			Omitted from original plan due to builidng location	
P-43-H5			Omitted from original plan due to builidng location	
P-43-H6			Omitted from original plan due to builidng location	
P-43-H7			Omitted from original plan due to builidng location	
P-43-H8	11/13/2018	5		0.1
P43-I1	11/16/2018	5		1.9
P43-I2	11/14/2018	15		0.4
P43-I3	11/14/2018	5		0.4
P43-I4			Omitted from original plan due to builidng location	
P43-I5			Omitted from original plan due to builidng location	
P43-I6			Omitted from original plan due to builidng location	
P43-I7			Omitted from original plan due to builidng location	
P43-I8	11/13/2018	15		1.3
Parcel 45				
P45-A1	11/15/2018	5		4.9
P45-A2	11/15/2018	5		2.1
P45-A3	11/15/2018	5	Slight odor .2' - .9'	2
P45-A4	11/15/2018	5		1.1
P45-A5	11/15/2018	5		1.5
P45-B1	**11/15/2018**	**5**	**Slight odor .2' - 2.3'. Sample submited from 0 - 2.5'**	**1.8**
P45-B2	11/15/2018	5		0.9
P45-B3	11/14/2018	5		4.7
P45-B4	11/15/2018	5		0.9
P45-B5	**11/15/2018**	**5**	**Sample submited from 0 - 2.5'**	**3.6**
P45-C1	11/15/2018	5	Slight odor .2' - .8'	0.8
P45-C2	11/15/2018	5	Slight odor .2' - .6'	0.5
P45-C3	11/14/2018	5		4.6
P45-C4	11/15/2018	5		1.3
P45-C5	11/15/2018	5		2.5
P45-D1			Omitted from original plan due to builidng location	
P45-D2	11/15/2018	5		1.3
P45-D3	11/14/2018	5		8.2
P45-D4	11/14/2018	5		12.8

Table 1. Soil Boring Summary
Planned Marshall University Baseball Stadium Site
Huntingon, Cabell County, West Virginia

Soil Boring ID	Date Drilled	Depth	Notes	Highest PID Reading (ppm-v/v)
P45-D5	11/14/2018	4.5		11.3
P45-E1			Omitted from original plan due to builidng location	
P45-E2			Omitted from original plan due to builidng location	
P45-E3			Omitted from original plan due to builidng location	
P45-E4			Omitted from original plan due to builidng location	
P45-E5			Omitted from original plan due to builidng location	
Building 9 (Western Building) - Note - Soil borings labeled as "B1 . ." due to field error in building identification				
B1-B1	**11/15/2018**	**15**	**Sample submitted from 2.5' to 4.2' bgs interval. Slight odor from 3' - 3.5'**	**23.6**
B1-B2	11/15/2018	15		0.5
B1-B3			Omitted due to time constraints	
B1-B4			Omitted due to time constraints	
B1-B5	11/15/2018	15	Slight odor from 1.5' - 3'	2.1
Building 1 (Eastern Building)- Note - Soil borings labeled as "B9. ." due to field error in builidng identification				
B9-B1			Omitted due to time constraints	
B9-B2	**11/15/2018**	**4.5**	**Refusal at 4.5' (brick fragments in end of tube) sample submitted from 0 to 2.5' bgs interval. Slight odor from 0.2' - 2.5'**	**5.4**
B9-B3	11/15/2018	15		0.4
B9-B4			Omitted due to time constraints	
B9-B5	11/15/2018	4.5	Refusal at 4.5' (concrete fragments in end of tube)	0.4

Notes:
Bold - Sample submitted for laboratory analysis

Table 2. Soil Analytical Results
Planned Marshall University Baseball Stadium Site
Huntington, Cabell County, West Virginia

Analyte	CAS	Residential RSL[1]	Industrial RSL[1]	Natural Background[2]	Parcel 43 Surface Soil					Parcel 43 Subsurface Soil		Parcel 45 Surface Soil	
					B9 B2 (0-2.5)	P43 A2 (0-3)	P43 B6 (0-2)	P43 E3 (0-2.5)	P43 F2 (0-2.4)	(B1 B1 (2.5-4.2)	P43 D7 (5-7.5)	P45 B1 (0-2.5)	P45 B5 (0-2.5)
Volatile Organic Compounds (VOCs)													
2-Butanone	78-93-3	27000	190000	NE	<0.0196	<0.0158	<0.016	<0.018	<0.02	**0.0394**	<0.026	<0.02	<0.0156
Acetone	67-64-1	61000	670000	NE	<0.0196	**0.0415**	**0.0703**	<0.018	<0.02	**0.115**	<0.026	<0.02	<0.0156
Benzene	71-43-2	1.2	5.1	NE	<0.00196	<0.00158	<0.0016	<0.0018	<0.002	<0.00172	<0.0026	<0.002	**0.00189(J)**
Carbon disulfide	75-15-0	770	3500	NE	<0.0098	<0.0079	<0.008	<0.009	<0.01	**0.0267**	<0.013	<0.01	<0.0078
p-Isopropyltoluene	99-87-6	NE	NE	NE	<0.00196	<0.00158	<0.0016	**0.0209**	<0.002	<0.00172	<0.0026	<0.002	<0.00156
Toluene	108-88-3	4900	47000	NE	<0.00196	<0.00158	<0.0016	<0.0018	<0.002	<0.00172	<0.0026	<0.002	**0.00176(J)**
Semi Volatile Organic Compounds (SVOCs)													
Acenaphthene	83-32-9	3600	45000	NE	**0.00199(J)**	**0.0263**	**0.00399**	**0.0116**	**0.0176**	**0.00333**	**0.0136**	**0.0299**	**0.00532**
Acenaphthylene[3]	208-96-8	*4200*	*80000*	NE	**0.00364**	**0.0166**	<0.000698	**0.00232(J)**	**0.00398**	<0.000698	<0.000699	<0.000699	<0.000698
Anthracene	120-12-7	18000	230000	NE	**0.00298**	**0.0199**	**0.00466**	**0.0116**	**0.0276**	**0.00266(J)**	**0.00599**	**0.0136**	**0.0130**
Benzo(a)anthracene	56-55-3	1.1	21	NE	**0.0325**	**0.0359**	**0.0496**	**0.0773**	**0.108**	**0.0462**	**0.0746**	**0.134**	**0.0502**
Benzo(a)pyrene	50-32-8	0.11	2.1	NE	**0.0139**	**0.0259**	**0.0402**	**0.0757**	**0.0890**	**0.0393**	**0.0829**	**0.130**	**0.0183**
Benzo(b)fluoranthene	205-99-2	1.1	21	NE	**0.0248**	**0.0313**	**0.0469**	**0.0757**	**0.0853**	**0.0486**	**0.0842**	**0.142**	**0.0256**
Benzo(g,h,i)perylene[3]	191-24-2	*1800*	*33000*	NE	**0.0123**	**0.0183**	**0.0236**	**0.0571**	**0.0568**	**0.0230**	**0.0579**	**0.115**	**0.00931**
Benzo(k)fluoranthene	207-08-9	11	210	NE	**0.0106**	**0.0103**	**0.0153**	**0.0272**	**0.0289**	**0.0183**	**0.0403**	**0.0489**	**0.00931**
Chrysene	218-01-9	110	2100	NE	**0.0368**	**0.0276**	**0.0339**	**0.0478**	**0.0641**	**0.0329**	**0.0503**	**0.0955**	**0.0329**
Dibenzo(a,h)anthracene	53-70-3	0.11	2.1	NE	**0.00364**	**0.00532**	**0.00632**	**0.0123**	**0.0126**	**0.00532**	**0.00965**	**0.0210**	**0.00266**
Fluoranthene	206-44-0	2400	30000	NE	**0.0444**	**0.0522**	**0.0552**	**0.0634**	**0.127**	**0.0413**	**0.0699**	**0.140**	**0.150**
Fluorene	86-73-7	2400	30000	NE	**0.00199(J)**	**0.0519**	<0.000698	**0.00299(J)**	**0.0116**	**0.00166(J)**	**0.00266(J)**	**0.00432**	**0.00299(J)**
Indeno(1,2,3-cd)pyrene	193-39-5	1.1	21	NE	**0.0139**	**0.0236**	**0.0356**	**0.0780**	**0.0784**	**0.0303**	**0.0762**	**0.154**	**0.0150**
Naphthalene	91-20-3	3.8	17	NE	<0.000695	**0.0941**	**0.00599**	**0.00531**	**0.0120**	**0.0106**	<0.000699	**0.00233(J)**	**0.00233(J)**
Phenanthrene[3]	85-01-8	*23000*	*700000*	NE	**0.0424**	**0.259**	**0.0236**	**0.0236**	**0.0850**	**0.0186**	**0.0210**	**0.0536**	0.120
Pyrene	129-00-0	1800	23000	NE	**0.0533**	**0.0399**	**0.0446**	**0.0544**	**0.103**	**0.0383**	**0.0679**	**0.131**	**0.0991**
Resource Conservation and Reovery Act (RCRA) Metals													
Arsenic	Total	0.68	3	17.9	**11.2**	**6.6**	**6.2**	**3.5(J)**	**4.2(J)**	**7.1**	**2.5(J)**	**5.4**	**5.0(J)**
Barium	Total	15000	220000	500	**79.6**	**390**	**8900**	**1830**	**5470**	**6250**	**41.1**	**972**	**1210**
Chromium	Total	120000	1800000	70	**12.2(J)**	**12.4(J)**	**12.9(J)**	**19.3(J)**	**38.9**	**17.6(J)**	**5.4(J)**	**11.2(J)**	**11.5(J)**
Lead	Total	400	800	20	**17.6(J)**	**34.2(J)**	**49.2**	**76.1**	**58.2**	**31.8(J)**	<10.0	**19.6(J)**	**22.7(J)**
Selenium	Total	390	5800	0.8	<1.0	<1.0	<1.0	<1.0	**1.3(J)**	<1.0	<1.0	<1.0	<1.0
Silver	Total	390	5800	NE	<1.0	<1.0	<1.0	**4.4(J)**	**9.2**	<1.0	<1.0	<1.0	<1.0
Polychlorinated Biphenyls (PCBs)													
Aroclor 1242	53469-21-9	0.23	0.95	NE	<0.00832	**16.6**	**2.37**	**8.75**	**3.41**	<0.00831	<0.00828	<0.00831	**0.817**

1. United States Environmental Protection Agency Regional Screening Levels, Revised November 2018
2. Natural background levels of inorganics in soil in West Virginia from Table 2-3, West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual
3. No USEPA RSL established for Acenaphthylene, Benzo(g,h,i) perylene, or Phenanthrene - West Virginia Voluntary Remediation Program Risk Based Screening Levels *(italics)* used concentration comparison for those analytes

Bold - Analyte detected
Yellow highlight - Analyte detected exceeding Residential RSL
Orange highlight - Analyte detected exceeding Industrial RSL

APPENDIX E

Pace Analytical Services, LLC
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Hurricane, WV 25526
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CASE NARRATIVE

Date: DEC 04 2018

CLIENT: Potesta & Associates, Inc.

Lab Number(s) 1805924-01 to 10

Pace Analytical Services LLC warrants the accuracy of analysis for the data generated and reported in this report. Procedures used by the laboratory are well documented and reviewed on a regular basis to ensure consistency and reliability. Sources for the analytical procedures are derived from EPA sources such as EPA-600/4-79-020, SW 846, and the 20th through 22nd Editions of Standard Methods.

Samples were received in good condition unless otherwise noted.

This report includes a total of 45 pages. This includes:

1	Case Narrative
9	Results for analyses reported by Pace Analytical Services WV
34	Results for analyses that were subcontracted
1	Chain of Custody form and associated documents
____	Other: _____

The estimated uncertainty of measurement is available upon client request.

Respectfully Submitted,

Mukesh Shah,
General Manager

Results reviewed by:

Pace Analytical®

Pace Analytical Services, LLC
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www.pacelabs.com

LABORATORY ANALYSIS REPORT

Potesta & Associates, Inc.
7012 MacCorkle Ave. SE
Charleston, WV 25304
Attn: David Corsaro
Potesta - HMDA Flint Parcels 43 & 45
B1 B1 (2.5-4.2)
0101-18-0317-001
HMDA Flint Parcels 43 &45

Laboratory Number:	1805924-01
Sample Identification	B1 B1 (2.5-4.2)
Sampled By:	Client
Date/Time Sampled	11/15/2018 17:00
Date/Time Received	11/16/2018 00:00
Sample Type	GRAB
Client Information	
Site Code	

PARAMETER	RESULT	NOTE	MDL	PQL	UNITS	METHOD	DATE OF ANALYSIS	TIME OF ANALYSIS	ANALYST
Metals by SW846 6000/7000 Series Methods									
Arsenic	7.1		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:11	CW
Barium	6250		5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	10:01	CW
Cadmium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:11	CW
Chromium	17.6	J	5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:11	CW
Lead	31.8	J	10.0	40.0	mg/Kg	SW846 6010B	11/28/2018	9:11	CW
Mercury	<0.8	QM-07	0.8	2.0	mg/Kg	SW8467471B	11/28/2018	9:14	CW
Selenium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:11	CW
Silver	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:11	CW

NOTES

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

Method Reference: USEPA: Methods for Chemical Analysis of Water and Waste.
SM: Standard Methods for the Examination of Water and Wastewater.
SW: Test Methods for Evaluating Solid Waste.

Respectfully Submitted:

Mukesh Shah

DEC 04 2018

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LABORATORY ANALYSIS REPORT

Potesta & Associates, Inc.
7012 MacCorkle Ave. SE
Charleston, WV 25304
Attn: David Corsaro
Potesta - HMDA Flint Parcels 43 & 45
B9 B2 (0-2.5)
0101-18-0317-001
HMDA Flint Parcels 43 &45

Laboratory Number:	1805924-02
Sample Identification	B9 B2 (0-2.5)
Sampled By:	Client
Date/Time Sampled	11/15/2018 17:00
Date/Time Received	11/16/2018 00:00
Sample Type	GRAB
Client Information	
Site Code	

PARAMETER	RESULT	NOTE	MDL	PQL	UNITS	METHOD	DATE OF ANALYSIS	TIME OF ANALYSIS	ANALYST
Metals by SW846 6000/7000 Series Methods									
Arsenic	11.2		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:15	CW
Barium	79.6		5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:15	CW
Cadmium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:15	CW
Chromium	12.2	J	5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:15	CW
Lead	17.6	J	10.0	40.0	mg/Kg	SW846 6010B	11/28/2018	9:15	CW
Mercury	<0.8		0.8	2.0	mg/Kg	SW8467471B	11/28/2018	9:14	CW
Selenium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:15	CW
Silver	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:15	CW

NOTES

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Method Reference: USEPA: Methods for Chemical Analysis of Water and Waste.
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Respectfully Submitted:

Mukesh Shah

DEC 04 2018

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LABORATORY ANALYSIS REPORT

Potesta & Associates, Inc.
7012 MacCorkle Ave. SE
Charleston, WV 25304
Attn: David Corsaro
Potesta - HMDA Flint Parcels 43 & 45
P42 A2 (0-3)
0101-18-0317-001
HMDA Flint Parcels 43 &45

Laboratory Number:	1805924-03
Sample Identification	P42 A2 (0-3)
Sampled By:	Client
Date/Time Sampled	11/16/2018 12:30
Date/Time Received	11/16/2018 00:00
Sample Type	GRAB
Client Information	
Site Code	

PARAMETER	RESULT	NOTE	MDL	PQL	UNITS	METHOD	DATE OF ANALYSIS	TIME OF ANALYSIS	ANALYST
Metals by SW846 6000/7000 Series Methods									
Arsenic	6.6		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:17	CW
Barium	390		5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:41	CW
Cadmium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:17	CW
Chromium	12.4	J	5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:17	CW
Lead	34.2	J	10.0	40.0	mg/Kg	SW846 6010B	11/28/2018	9:17	CW
Mercury	<0.8		0.8	2.0	mg/Kg	SW8467471B	11/28/2018	9:14	CW
Selenium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:17	CW
Silver	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:17	CW

NOTES

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Method Reference: USEPA: Methods for Chemical Analysis of Water and Waste.
SM: Standard Methods for the Examination of Water and Wastewater.
SW: Test Methods for Evaluating Solid Waste.

Respectfully Submitted:

Mukesh Shah

DEC 04 2018

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LABORATORY ANALYSIS REPORT

Potesta & Associates, Inc.
7012 MacCorkle Ave. SE
Charleston, WV 25304
Attn: David Corsaro
Potesta - HMDA Flint Parcels 43 & 45
P43 B6 (0-2)
0101-18-0317-001
HMDA Flint Parcels 43 &45

Laboratory Number:	1805924-04
Sample Identification	P43 B6 (0-2)
Sampled By:	Client
Date/Time Sampled	11/13/2018 16:00
Date/Time Received	11/16/2018 00:00
Sample Type	GRAB
Client Information	
Site Code	

PARAMETER	RESULT	NOTE	MDL	PQL	UNITS	METHOD	DATE OF ANALYSIS	TIME OF ANALYSIS	ANALYST
Metals by SW846 6000/7000 Series Methods									
Arsenic	6.2		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:18	CW
Barium	8900		5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	10:03	CW
Cadmium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:18	CW
Chromium	12.9	J	5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:18	CW
Lead	49.2		10.0	40.0	mg/Kg	SW846 6010B	11/28/2018	9:18	CW
Mercury	<0.8		0.8	2.0	mg/Kg	SW8467471B	11/28/2018	9:14	CW
Selenium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:18	CW
Silver	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:18	CW

NOTES

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Method Reference: USEPA: Methods for Chemical Analysis of Water and Waste.
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SW: Test Methods for Evaluating Solid Waste.

Respectfully Submitted:

Mukesh Shah

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LABORATORY ANALYSIS REPORT

Potesta & Associates, Inc.
7012 MacCorkle Ave. SE
Charleston, WV 25304
Attn: David Corsaro
Potesta - HMDA Flint Parcels 43 & 45
P43 D7 (5-7.5)
0101-18-0317-001
HMDA Flint Parcels 43 &45

Laboratory Number:	1805924-05
Sample Identification	P43 D7 (5-7.5)
Sampled By:	Client
Date/Time Sampled	11/13/2018 15:15
Date/Time Received	11/16/2018 00:00
Sample Type	GRAB
Client Information	
Site Code	

PARAMETER	RESULT	NOTE	MDL	PQL	UNITS	METHOD	DATE OF ANALYSIS	TIME OF ANALYSIS	ANALYST
Metals by SW846 6000/7000 Series Methods									
Arsenic	2.5	J	1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:21	CW
Barium	41.1		5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:21	CW
Cadmium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:21	CW
Chromium	5.4	J	5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:21	CW
Lead	<10.0		10.0	40.0	mg/Kg	SW846 6010B	11/28/2018	9:21	CW
Mercury	<0.8		0.8	2.0	mg/Kg	SW8467471B	11/28/2018	9:14	CW
Selenium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:21	CW
Silver	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:21	CW

NOTES

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Method Reference: USEPA: Methods for Chemical Analysis of Water and Waste.
SM: Standard Methods for the Examination of Water and Wastewater.
SW: Test Methods for Evaluating Solid Waste.

Respectfully Submitted:

Mukesh Shah

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LABORATORY ANALYSIS REPORT

Potesta & Associates, Inc.
7012 MacCorkle Ave. SE
Charleston, WV 25304
Attn: David Corsaro
Potesta - HMDA Flint Parcels 43 & 45
P43 E3 (0-2.5)
0101-18-0317-001
HMDA Flint Parcels 43 &45

Laboratory Number:	1805924-06
Sample Identification	P43 E3 (0-2.5)
Sampled By:	Client
Date/Time Sampled	11/14/2018 17:00
Date/Time Received	11/16/2018 00:00
Sample Type	GRAB
Client Information	
Site Code	

PARAMETER	RESULT	NOTE	MDL	PQL	UNITS	METHOD	DATE OF ANALYSIS	TIME OF ANALYSIS	ANALYST
Metals by SW846 6000/7000 Series Methods									
Arsenic	3.5	J	1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:23	CW
Barium	1830		5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	10:04	CW
Cadmium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:23	CW
Chromium	19.3	J	5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:23	CW
Lead	76.1		10.0	40.0	mg/Kg	SW846 6010B	11/28/2018	9:23	CW
Mercury	<0.8		0.8	2.0	mg/Kg	SW8467471B	11/28/2018	9:14	CW
Selenium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:23	CW
Silver	4.4	J	1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:23	CW

NOTES

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Method Reference: USEPA: Methods for Chemical Analysis of Water and Waste.
SM: Standard Methods for the Examination of Water and Wastewater.
SW: Test Methods for Evaluating Solid Waste.

Respectfully Submitted:

Mukesh Shah

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LABORATORY ANALYSIS REPORT

Potesta & Associates, Inc.
7012 MacCorkle Ave. SE
Charleston, WV 25304
Attn: David Corsaro
Potesta - HMDA Flint Parcels 43 & 45
P43 F2 (0-2.4)
0101-18-0317-001
HMDA Flint Parcels 43 &45

Laboratory Number:	1805924-07
Sample Identification	P43 F2 (0-2.4)
Sampled By:	Client
Date/Time Sampled	11/14/2018 17:30
Date/Time Received	11/16/2018 00:00
Sample Type	GRAB
Client Information	
Site Code	

PARAMETER	RESULT	NOTE	MDL	PQL	UNITS	METHOD	DATE OF ANALYSIS	TIME OF ANALYSIS	ANALYST
Metals by SW846 6000/7000 Series Methods									
Arsenic	4.2	J	1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:24	CW
Barium	5470		5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	10:06	CW
Cadmium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:24	CW
Chromium	38.9		5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:24	CW
Lead	58.2		10.0	40.0	mg/Kg	SW846 6010B	11/28/2018	9:24	CW
Mercury	<0.8		0.8	2.0	mg/Kg	SW8467471B	11/28/2018	9:14	CW
Selenium	1.3	J	1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:24	CW
Silver	9.2		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:24	CW

NOTES

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Method Reference: USEPA: Methods for Chemical Analysis of Water and Waste.
SM: Standard Methods for the Examination of Water and Wastewater.
SW: Test Methods for Evaluating Solid Waste.

Respectfully Submitted:

Mukesh Shah

DEC 04 2018

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LABORATORY ANALYSIS REPORT

Potesta & Associates, Inc.
7012 MacCorkle Ave. SE
Charleston, WV 25304
Attn: David Corsaro
Potesta - HMDA Flint Parcels 43 & 45
P45 B1 (0-2.5)
0101-18-0317-001
HMDA Flint Parcels 43 &45

Laboratory Number:	1805924-08
Sample Identification	P45 B1 (0-2.5)
Sampled By:	Client
Date/Time Sampled	11/15/2018 17:00
Date/Time Received	11/16/2018 00:00
Sample Type	GRAB
Client Information	
Site Code	

PARAMETER	RESULT	NOTE	MDL	PQL	UNITS	METHOD	DATE OF ANALYSIS	TIME OF ANALYSIS	ANALYST
Metals by SW846 6000/7000 Series Methods									
Arsenic	5.4		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:26	CW
Barium	972		5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	10:08	CW
Cadmium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:26	CW
Chromium	11.2	J	5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:26	CW
Lead	19.6	J	10.0	40.0	mg/Kg	SW846 6010B	11/28/2018	9:26	CW
Mercury	<0.8		0.8	2.0	mg/Kg	SW8467471B	11/28/2018	9:14	CW
Selenium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:26	CW
Silver	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:26	CW

NOTES

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Method Reference: USEPA: Methods for Chemical Analysis of Water and Waste.
SM: Standard Methods for the Examination of Water and Wastewater.
SW: Test Methods for Evaluating Solid Waste.

Respectfully Submitted:

Mukesh Shah

DEC 04 2018

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LABORATORY ANALYSIS REPORT

Potesta & Associates, Inc.
7012 MacCorkle Ave. SE
Charleston, WV 25304
Attn: David Corsaro
Potesta - HMDA Flint Parcels 43 & 45
P45 B5 (0-2.5)
0101-18-0317-001
HMDA Flint Parcels 43 &45

Laboratory Number:	1805924-09
Sample Identification	P45 B5 (0-2.5)
Sampled By:	Client
Date/Time Sampled	11/15/2018 17:00
Date/Time Received	11/16/2018 00:00
Sample Type	GRAB
Client Information	
Site Code	

PARAMETER	RESULT	NOTE	MDL	PQL	UNITS	METHOD	DATE OF ANALYSIS	TIME OF ANALYSIS	ANALYST
Metals by SW846 6000/7000 Series Methods									
Arsenic	5.0	J	1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:33	CW
Barium	1210		5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	10:09	CW
Cadmium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:33	CW
Chromium	11.5	J	5.0	20.0	mg/Kg	SW846 6010B	11/28/2018	9:33	CW
Lead	22.7	J	10.0	40.0	mg/Kg	SW846 6010B	11/28/2018	9:33	CW
Mercury	<0.8		0.8	2.0	mg/Kg	SW8467471B	11/28/2018	9:14	CW
Selenium	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:33	CW
Silver	<1.0		1.0	5.0	mg/Kg	SW846 6010B	11/28/2018	9:33	CW

NOTES

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

Method Reference: USEPA: Methods for Chemical Analysis of Water and Waste.
SM: Standard Methods for the Examination of Water and Wastewater.
SW: Test Methods for Evaluating Solid Waste.

Respectfully Submitted:

Mukesh Shah

DEC 04 2018

Certified by WVDEP & KYDOW • Sampling and Analysis of Water, Wastewater and Soil

Pace Analytical Services
PO Box 286
Beaver, WV 25813
TEL: (304) 255-2500
Website: www.reiclabs.com

782 North Lee Highway
Lexington, VA 24450
TEL: 540.464.1880

16 Commerce Drive
Westover, WV 26501
TEL: 304.241.5861

Brian Richards
PACE ANALYTICAL SERVICES LLC-WV
5 WEATHERIDGE DRIVE
HURRICANE, WV 25526

Tuesday, December 04, 2018

TEL:
FAX:

RE: 0101-18-0317-001
Work Order #: 18112453

Dear Brian Richards:

Pace Analytical Services received 10 sample(s) on 11/19/2018 for the analyses presented in the following report.

Sincerely,

Billy Shirley
Project Manager
(304) 250-6214

Pace Analytical Services - Case Narrative

WO#: 18112453

Date Reported: 12/4/2018
Original

Client: PACE ANALYTICAL SERVICES LLC-WV

Project: 0101-18-0317-001

The analytical results presented in this report were produced using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. Verification of required sample preservation (as required) is recorded on associated laboratory logs. Any deviation from compliance or method modification is identified within the body of this report by a qualifier footnote which is defined at the bottom of this page.

All sample results for solid samples are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as TTHM and HAA5, may vary slightly from the sum of the individual parameter results, due to rounding of individual results, as required by EPA.

The test results in this report meet all NELAP and/or VELAP requirements for parameters clearly designated as PA, VA, PA/VA, or VELAP in the column labeled NELAP.

Please note if the sample collection time is not provided on the Chain of Custody, the default recording will be 0:00:00. This may cause some tests to be apparently analyzed out of hold.

All tests performed by the Lexington and Morgantown Service Centers are designated by an annotation on the test code. All other tests were performed by Pace Analytical Services, LLC Laboratory in Beaver, WV. Subcontracted results are attached to the end of the report.

This report may not be reproduced, except in full, without the written approval of Pace Analytical Services, LLC.

All samples are stored for a minimum of 14 days after the date of the final report. All records are stored for a minimum of 5 years. If longer sample or records retention is required, please contact your project manager for details.

DEFINITIONS:
MCL: Maximum Contaminant Level
MDL: Method Detection Limit; The lowest concentration of analyte that can be detected by the method in the applicable matrix.
Mg/Kg or mg/L: Units of part per million (PPM) - milligram per Kilogram (weight/weight) or milligram per Liter (weight/volume).
NA: Not Applicable
ND: Not Detected at the PQL or MDL
PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.
Qual: Qualifier that applies to the analyte reported.
TIC: Tentatively Identified Compound, Estimated Concentration denoted by "J" qualifier.
Ug/Kg or ug/L: Units of part per billion (PPB) - microgram per kilogram (weight/weight) or microgram per liter (weight/volume).

QUALIFIERS:
X: Reported value exceeds required MCL
B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL
E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.
H: Holding time for preparation or analysis has been exceeded.
J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the MDL. The result reported is an estimate.
S: % REC (% recovery) exceeds control limits

CERTIFICATIONS:
Beaver, WV: WVDHHR 00412CM, WVDEP 060, VADCLS 00281, KYDEP 90039, NCDWQ 466, PADEP 68-00839, VADCLS(VELAP) 460148
Bioassay (Beaver, WV): WVDEP 060, VADCLS(VELAP) 460148, PADEP 68-00839
Lexington, VA: VADCLS(VELAP) 460150
Morgantown, WV: WVDHHR 003112M, WVDEP 387

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-01A	**Matrix:**	Solid
Client Sample ID:	1805924-01 (B1 B1 (2.5-4.2))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
PERCENT MOISTURE			**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	23	NA	1.0	NA		wt%	11/20/2018 1:57 PM	
PCBS			**Method: SW8082A**				**Analyst: NC**	
Aroclor 1016	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 4:58 PM	VA
Aroclor 1221	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 4:58 PM	VA
Aroclor 1232	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 4:58 PM	VA
Aroclor 1242	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 4:58 PM	VA
Aroclor 1248	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 4:58 PM	VA
Aroclor 1254	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 4:58 PM	VA
Aroclor 1260	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 4:58 PM	VA
Surr: Tetrachloro-m-xylene	42.9	NA	25.6-130	NA		%Rec	11/26/2018 4:58 PM	

Notes:

The ending CCV for Aroclors 1016 & 1260 exceeds laboratory control limits, indicating a high bias. Since the analytes were not detected in the sample, the reported results are not affected by this bias.

POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)			**Method: SW8270D SIM**				**Analyst: CLS**	
Anthracene	0.00266	0.000699	0.00329	NA	J	mg/Kg	11/27/2018 5:50 PM	PA/VA
Acenaphthene	0.00333	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Acenaphthylene	ND	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Benzo(a)anthracene	0.0462	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Benzo(a)pyrene	0.0393	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Benzo(b)fluoranthene	0.0486	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Benzo(g,h,i)perylene	0.0230	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Benzo(k)fluoranthene	0.0183	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Chrysene	0.0329	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Dibenzo(a,h)anthracene	0.00532	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Fluoranthene	0.0413	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Fluorene	0.00166	0.000699	0.00329	NA	J	mg/Kg	11/27/2018 5:50 PM	PA/VA
Indeno(1,2,3-cd)pyrene	0.0303	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Naphthalene	0.0106	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Phenanthrene	0.0186	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Pyrene	0.0383	0.000699	0.00329	NA		mg/Kg	11/27/2018 5:50 PM	PA/VA
Surr: Nitrobenzene-d5	120	NA	23.3-150	NA		%Rec	11/27/2018 5:50 PM	
Surr: 2-Fluorobiphenyl	66.7	NA	40.1-121	NA		%Rec	11/27/2018 5:50 PM	

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-01A	**Matrix:**	Solid
Client Sample ID:	1805924-01 (B1 B1 (2.5-4.2))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
Surr: 4-Terphenyl-d14	72.7	NA	24.9-124	NA		%Rec	11/27/2018 5:50 PM	

Notes:

Matrix spike recoveries were not within laboratory control limits due to matrix interference. Acceptable LCS recovery indicates the analysis was in control.

VOLATILE ORGANIC COMPOUNDS-8260			Method: SW8260B				Analyst: TKC	
Acetone	115	17.2	34.4	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Acrolein	ND	17.2	34.4	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Acrylonitrile	ND	17.2	34.4	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Benzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Bromobenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Bromochloromethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Bromodichloromethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Bromoform	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Bromomethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
2-Butanone	39.4	17.2	34.4	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
n-Butylbenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
sec-Butylbenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
tert-Butylbenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Carbon disulfide	26.7	8.60	17.2	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Carbon tetrachloride	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Chlorobenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Chloroethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Chloroform	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Chloromethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
2-Chlorotoluene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
4-Chlorotoluene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Dibromochloromethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
DBCP	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,2-Dibromoethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Dibromomethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,2-Dichlorobenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,3-Dichlorobenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,4-Dichlorobenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Dichlorodifluoromethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,1-Dichloroethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-01A	**Matrix:**	Solid
Client Sample ID:	1805924-01 (B1 B1 (2.5-4.2))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
1,2-Dichloroethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,1-Dichloroethene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
cis-1,2-Dichloroethene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
trans-1,2-Dichloroethene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,2-Dichloropropane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,3-Dichloropropane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
2,2-Dichloropropane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,1-Dichloropropene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
cis-1,3-Dichloropropene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
trans-1,3-Dichloropropene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Ethylbenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Hexachlorobutadiene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
2-Hexanone	ND	17.2	34.4	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Iodomethane	ND	17.2	34.4	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Isopropylbenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
p-Isopropyltoluene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Methylene chloride	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
4-Methyl-2-pentanone	ND	17.2	34.4	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
MTBE	ND	8.60	17.2	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
n-Propylbenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Styrene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Tetrachloroethene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Toluene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,2,3-Trichlorobenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,1,1-Trichloroethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,1,2-Trichloroethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Trichloroethene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Trichlorofluoromethane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,2,3-Trichloropropane	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,2,4-Trimethylbenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
1,3,5-Trimethylbenzene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Vinyl acetate	ND	17.2	34.4	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
Vinyl chloride	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	PA/VA
o-Xylene	ND	1.72	3.44	NA		µg/Kg	11/27/2018 6:44 PM	
m,p-Xylene	ND	3.44	6.88	NA		µg/Kg	11/27/2018 6:44 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-01A	**Matrix:**	Solid
Client Sample ID:	1805924-01 (B1 B1 (2.5-4.2))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
Surr: 1,2-Dichloroethane-d4	96.6	NA	65-124	NA		%Rec	11/27/2018 6:44 PM	
Surr: 4-Bromofluorobenzene	109	NA	75.8-128	NA		%Rec	11/27/2018 6:44 PM	
Surr: Dibromofluoromethane	100	NA	74.1-126	NA		%Rec	11/27/2018 6:44 PM	
Surr: Toluene-d8	87.9	NA	77.3-130	NA		%Rec	11/27/2018 6:44 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-02A	**Matrix:**	Solid
Client Sample ID:	1805924-02 (B9 B2 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
PERCENT MOISTURE			**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	8.0	NA	1.0	NA		wt%	11/20/2018 1:57 PM	
PCBS			**Method: SW8082A**				**Analyst: NC**	
Aroclor 1016	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 5:12 PM	VA
Aroclor 1221	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 5:12 PM	VA
Aroclor 1232	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 5:12 PM	VA
Aroclor 1242	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 5:12 PM	VA
Aroclor 1248	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 5:12 PM	VA
Aroclor 1254	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 5:12 PM	VA
Aroclor 1260	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 5:12 PM	VA
Surr: Tetrachloro-m-xylene	156	NA	25.6-130	NA	S	%Rec	11/26/2018 5:12 PM	

Notes:

The ending CCV for Aroclors 1016 & 1260 exceeds laboratory control limits, indicating a high bias. Since the analytes were not detected in the sample, the reported results are not affected by this bias.

The surrogate recovery is outside laboratory control limits due to matrix interference.

POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)			**Method: SW8270D SIM**				**Analyst: CLS**	
Anthracene	0.00298	0.000696	0.00328	NA	J	mg/Kg	11/27/2018 10:35 PM	PA/VA
Acenaphthene	0.00199	0.000696	0.00328	NA	J	mg/Kg	11/27/2018 10:35 PM	PA/VA
Acenaphthylene	0.00364	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Benzo(a)anthracene	0.0325	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Benzo(a)pyrene	0.0139	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Benzo(b)fluoranthene	0.0248	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Benzo(g,h,i)perylene	0.0123	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Benzo(k)fluoranthene	0.0106	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Chrysene	0.0368	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Dibenzo(a,h)anthracene	0.00364	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Fluoranthene	0.0444	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Fluorene	0.00199	0.000696	0.00328	NA	J	mg/Kg	11/27/2018 10:35 PM	PA/VA
Indeno(1,2,3-cd)pyrene	0.0139	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Naphthalene	ND	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Phenanthrene	0.0424	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Pyrene	0.0533	0.000696	0.00328	NA		mg/Kg	11/27/2018 10:35 PM	PA/VA
Surr: Nitrobenzene-d5	112	NA	23.3-150	NA		%Rec	11/27/2018 10:35 PM	
Surr: 2-Fluorobiphenyl	71.7	NA	40.1-121	NA		%Rec	11/27/2018 10:35 PM	
Surr: 4-Terphenyl-d14	71.7	NA	24.9-124	NA		%Rec	11/27/2018 10:35 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-02A	**Matrix:**	Solid
Client Sample ID:	1805924-02 (B9 B2 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
VOLATILE ORGANIC COMPOUNDS-8260			**Method: SW8260B**				**Analyst: TKC**	
Acetone	ND	19.6	39.2	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Acrolein	ND	19.6	39.2	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Acrylonitrile	ND	19.6	39.2	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Benzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Bromobenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Bromochloromethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Bromodichloromethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Bromoform	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Bromomethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
2-Butanone	ND	19.6	39.2	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
n-Butylbenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
sec-Butylbenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
tert-Butylbenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Carbon disulfide	ND	9.80	19.6	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Carbon tetrachloride	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Chlorobenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Chloroethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Chloroform	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Chloromethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
2-Chlorotoluene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
4-Chlorotoluene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Dibromochloromethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
DBCP	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,2-Dibromoethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Dibromomethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,2-Dichlorobenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,3-Dichlorobenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,4-Dichlorobenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Dichlorodifluoromethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,1-Dichloroethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,2-Dichloroethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,1-Dichloroethene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
cis-1,2-Dichloroethene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
trans-1,2-Dichloroethene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,2-Dichloropropane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,3-Dichloropropane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
2,2-Dichloropropane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-02A	**Matrix:**	Solid
Client Sample ID:	1805924-02 (B9 B2 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
1,1-Dichloropropene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
cis-1,3-Dichloropropene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
trans-1,3-Dichloropropene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Ethylbenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Hexachlorobutadiene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
2-Hexanone	ND	19.6	39.2	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Iodomethane	ND	19.6	39.2	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Isopropylbenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
p-Isopropyltoluene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Methylene chloride	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
4-Methyl-2-pentanone	ND	19.6	39.2	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
MTBE	ND	9.80	19.6	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
n-Propylbenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Styrene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Tetrachloroethene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Toluene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,2,3-Trichlorobenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,1,1-Trichloroethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,1,2-Trichloroethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Trichloroethene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Trichlorofluoromethane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,2,3-Trichloropropane	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,2,4-Trimethylbenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
1,3,5-Trimethylbenzene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Vinyl acetate	ND	19.6	39.2	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
Vinyl chloride	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	PA/VA
o-Xylene	ND	1.96	3.92	NA		µg/Kg	11/27/2018 7:18 PM	
m,p-Xylene	ND	3.92	7.84	NA		µg/Kg	11/27/2018 7:18 PM	
Surr: 1,2-Dichloroethane-d4	98.4	NA	65-124	NA		%Rec	11/27/2018 7:18 PM	
Surr: 4-Bromofluorobenzene	108	NA	75.8-128	NA		%Rec	11/27/2018 7:18 PM	
Surr: Dibromofluoromethane	98.5	NA	74.1-126	NA		%Rec	11/27/2018 7:18 PM	
Surr: Toluene-d8	92.0	NA	77.3-130	NA		%Rec	11/27/2018 7:18 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/16/2018 12:30:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-03A	**Matrix:**	Solid
Client Sample ID:	1805924-03 ((P43 A2 (0-3))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
PERCENT MOISTURE			**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	17	NA	1.0	NA		wt%	11/20/2018 1:57 PM	
PCBS			**Method: SW8082A**				**Analyst: NC**	
Aroclor 1016	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 5:26 PM	VA
Aroclor 1221	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 5:26 PM	VA
Aroclor 1232	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 5:26 PM	VA
Aroclor 1242	16.6	0.0833	0.167	NA		mg/Kg	12/3/2018 9:04 AM	VA
Aroclor 1248	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 5:26 PM	VA
Aroclor 1254	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 5:26 PM	VA
Aroclor 1260	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 5:26 PM	VA
Surr: Tetrachloro-m-xylene	137	NA	25.6-130	NA	S	%Rec	11/26/2018 5:26 PM	

Notes:

The ending CCV for Aroclors 1016 & 1260 exceeds laboratory control limits, indicating a high bias. Since the analytes were not detected in the sample, the reported results are not affected by this bias.

The surrogate recovery is outside laboratory control limits due to matrix interference.

POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)			**Method: SW8270D SIM**				**Analyst: CLS**	
Anthracene	0.0199	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Acenaphthene	0.0263	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Acenaphthylene	0.0166	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Benzo(a)anthracene	0.0359	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Benzo(a)pyrene	0.0259	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Benzo(b)fluoranthene	0.0313	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Benzo(g,h,i)perylene	0.0183	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Benzo(k)fluoranthene	0.0103	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Chrysene	0.0276	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Dibenzo(a,h)anthracene	0.00532	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Fluoranthene	0.0522	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Fluorene	0.0519	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Indeno(1,2,3-cd)pyrene	0.0236	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Naphthalene	0.0941	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Phenanthrene	0.259	0.00698	0.0329	NA		mg/Kg	11/29/2018 4:14 PM	PA/VA
Pyrene	0.0399	0.000698	0.00329	NA		mg/Kg	11/27/2018 10:59 PM	PA/VA
Surr: Nitrobenzene-d5	120	NA	23.3-150	NA		%Rec	11/27/2018 10:59 PM	
Surr: 2-Fluorobiphenyl	60.6	NA	40.1-121	NA		%Rec	11/27/2018 10:59 PM	
Surr: 4-Terphenyl-d14	76.8	NA	24.9-124	NA		%Rec	11/27/2018 10:59 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/16/2018 12:30:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-03A	**Matrix:**	Solid
Client Sample ID:	1805924-03 ((P43 A2 (0-3))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
VOLATILE ORGANIC COMPOUNDS-8260			**Method: SW8260B**				**Analyst: TKC**	
Acetone	41.5	15.8	31.6	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Acrolein	ND	15.8	31.6	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Acrylonitrile	ND	15.8	31.6	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Benzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Bromobenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Bromochloromethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Bromodichloromethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Bromoform	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Bromomethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
2-Butanone	ND	15.8	31.6	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
n-Butylbenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
sec-Butylbenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
tert-Butylbenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Carbon disulfide	ND	7.90	15.8	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Carbon tetrachloride	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Chlorobenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Chloroethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Chloroform	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Chloromethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
2-Chlorotoluene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
4-Chlorotoluene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Dibromochloromethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
DBCP	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,2-Dibromoethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Dibromomethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,2-Dichlorobenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,3-Dichlorobenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,4-Dichlorobenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Dichlorodifluoromethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,1-Dichloroethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,2-Dichloroethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,1-Dichloroethene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
cis-1,2-Dichloroethene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
trans-1,2-Dichloroethene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,2-Dichloropropane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,3-Dichloropropane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
2,2-Dichloropropane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/16/2018 12:30:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-03A	**Matrix:**	Solid
Client Sample ID:	1805924-03 ((P43 A2 (0-3))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
1,1-Dichloropropene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
cis-1,3-Dichloropropene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
trans-1,3-Dichloropropene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Ethylbenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Hexachlorobutadiene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
2-Hexanone	ND	15.8	31.6	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Iodomethane	ND	15.8	31.6	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Isopropylbenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
p-Isopropyltoluene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Methylene chloride	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
4-Methyl-2-pentanone	ND	15.8	31.6	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
MTBE	ND	7.90	15.8	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
n-Propylbenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Styrene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Tetrachloroethene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Toluene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,2,3-Trichlorobenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,1,1-Trichloroethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,1,2-Trichloroethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Trichloroethene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Trichlorofluoromethane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,2,3-Trichloropropane	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,2,4-Trimethylbenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
1,3,5-Trimethylbenzene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Vinyl acetate	ND	15.8	31.6	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
Vinyl chloride	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	PA/VA
o-Xylene	ND	1.58	3.16	NA		µg/Kg	11/27/2018 7:52 PM	
m,p-Xylene	ND	3.16	6.32	NA		µg/Kg	11/27/2018 7:52 PM	
Surr: 1,2-Dichloroethane-d4	97.0	NA	65-124	NA		%Rec	11/27/2018 7:52 PM	
Surr: 4-Bromofluorobenzene	105	NA	75.8-128	NA		%Rec	11/27/2018 7:52 PM	
Surr: Dibromofluoromethane	97.2	NA	74.1-126	NA		%Rec	11/27/2018 7:52 PM	
Surr: Toluene-d8	92.7	NA	77.3-130	NA		%Rec	11/27/2018 7:52 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/13/2018 4:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-04A	**Matrix:**	Solid
Client Sample ID:	1805924-04 (P43 B6 (0-2))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
PERCENT MOISTURE			**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	27	NA	1.0	NA		wt%	11/20/2018 1:57 PM	
PCBS			**Method: SW8082A**				**Analyst: NC**	
Aroclor 1016	ND	0.00829	0.0166	NA		mg/Kg	11/26/2018 5:40 PM	VA
Aroclor 1221	ND	0.00829	0.0166	NA		mg/Kg	11/26/2018 5:40 PM	VA
Aroclor 1232	ND	0.00829	0.0166	NA		mg/Kg	11/26/2018 5:40 PM	VA
Aroclor 1242	2.37	0.0829	0.166	NA		mg/Kg	12/3/2018 9:18 AM	VA
Aroclor 1248	ND	0.00829	0.0166	NA		mg/Kg	11/26/2018 5:40 PM	VA
Aroclor 1254	ND	0.00829	0.0166	NA		mg/Kg	11/26/2018 5:40 PM	VA
Aroclor 1260	ND	0.00829	0.0166	NA		mg/Kg	11/26/2018 5:40 PM	VA
Surr: Tetrachloro-m-xylene	146	NA	25.6-130	NA	S	%Rec	11/26/2018 5:40 PM	

Notes:

The ending CCV for Aroclors 1016 & 1260 exceeds laboratory control limits, indicating a high bias. Since the analytes were not detected in the sample, the reported results are not affected by this bias.

The surrogate recovery is outside laboratory control limits due to matrix interference.

POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)			**Method: SW8270D SIM**				**Analyst: CLS**	
Anthracene	0.00466	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Acenaphthene	0.00399	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Acenaphthylene	ND	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Benzo(a)anthracene	0.0496	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Benzo(a)pyrene	0.0402	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Benzo(b)fluoranthene	0.0469	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Benzo(g,h,i)perylene	0.0236	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Benzo(k)fluoranthene	0.0153	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Chrysene	0.0339	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Dibenzo(a,h)anthracene	0.00632	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Fluoranthene	0.0552	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Fluorene	ND	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Indeno(1,2,3-cd)pyrene	0.0356	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Naphthalene	0.00599	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Phenanthrene	0.0236	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Pyrene	0.0446	0.000698	0.00329	NA		mg/Kg	11/27/2018 11:22 PM	PA/VA
Surr: Nitrobenzene-d5	121	NA	23.3-150	NA		%Rec	11/27/2018 11:22 PM	
Surr: 2-Fluorobiphenyl	68.7	NA	40.1-121	NA		%Rec	11/27/2018 11:22 PM	
Surr: 4-Terphenyl-d14	72.7	NA	24.9-124	NA		%Rec	11/27/2018 11:22 PM	

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/13/2018 4:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-04A	**Matrix:**	Solid
Client Sample ID:	1805924-04 (P43 B6 (0-2))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
VOLATILE ORGANIC COMPOUNDS-8260			**Method: SW8260B**				**Analyst: TKC**	
Acetone	70.3	16.0	32.0	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Acrolein	ND	16.0	32.0	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Acrylonitrile	ND	16.0	32.0	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Benzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Bromobenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Bromochloromethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Bromodichloromethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Bromoform	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Bromomethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
2-Butanone	ND	16.0	32.0	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
n-Butylbenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
sec-Butylbenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
tert-Butylbenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Carbon disulfide	ND	8.00	16.0	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Carbon tetrachloride	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Chlorobenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Chloroethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Chloroform	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Chloromethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
2-Chlorotoluene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
4-Chlorotoluene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Dibromochloromethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
DBCP	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,2-Dibromoethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Dibromomethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,2-Dichlorobenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,3-Dichlorobenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,4-Dichlorobenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Dichlorodifluoromethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,1-Dichloroethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,2-Dichloroethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,1-Dichloroethene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
cis-1,2-Dichloroethene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
trans-1,2-Dichloroethene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,2-Dichloropropane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,3-Dichloropropane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
2,2-Dichloropropane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/13/2018 4:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-04A	**Matrix:**	Solid
Client Sample ID:	1805924-04 (P43 B6 (0-2))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
1,1-Dichloropropene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
cis-1,3-Dichloropropene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
trans-1,3-Dichloropropene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Ethylbenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Hexachlorobutadiene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
2-Hexanone	ND	16.0	32.0	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Iodomethane	ND	16.0	32.0	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Isopropylbenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
p-Isopropyltoluene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Methylene chloride	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
4-Methyl-2-pentanone	ND	16.0	32.0	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
MTBE	ND	8.00	16.0	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
n-Propylbenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Styrene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Tetrachloroethene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Toluene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,2,3-Trichlorobenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,1,1-Trichloroethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,1,2-Trichloroethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Trichloroethene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Trichlorofluoromethane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,2,3-Trichloropropane	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,2,4-Trimethylbenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
1,3,5-Trimethylbenzene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Vinyl acetate	ND	16.0	32.0	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
Vinyl chloride	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	PA/VA
o-Xylene	ND	1.60	3.20	NA		µg/Kg	11/27/2018 4:28 PM	
m,p-Xylene	ND	3.20	6.40	NA		µg/Kg	11/27/2018 4:28 PM	
Surr: 1,2-Dichloroethane-d4	91.8	NA	65-124	NA		%Rec	11/27/2018 4:28 PM	
Surr: 4-Bromofluorobenzene	126	NA	75.8-128	NA		%Rec	11/27/2018 4:28 PM	
Surr: Dibromofluoromethane	93.6	NA	74.1-126	NA		%Rec	11/27/2018 4:28 PM	
Surr: Toluene-d8	98.9	NA	77.3-130	NA		%Rec	11/27/2018 4:28 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/13/2018 3:15:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-05A	**Matrix:**	Solid
Client Sample ID:	1805924-05 (P43 D7 (5-7.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
PERCENT MOISTURE			**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	20	NA	1.0	NA		wt%	11/20/2018 1:57 PM	
PCBS			**Method: SW8082A**				**Analyst: NC**	
Aroclor 1016	ND	0.00828	0.0166	NA		mg/Kg	11/26/2018 5:54 PM	VA
Aroclor 1221	ND	0.00828	0.0166	NA		mg/Kg	11/26/2018 5:54 PM	VA
Aroclor 1232	ND	0.00828	0.0166	NA		mg/Kg	11/26/2018 5:54 PM	VA
Aroclor 1242	ND	0.00828	0.0166	NA		mg/Kg	11/26/2018 5:54 PM	VA
Aroclor 1248	ND	0.00828	0.0166	NA		mg/Kg	11/26/2018 5:54 PM	VA
Aroclor 1254	ND	0.00828	0.0166	NA		mg/Kg	11/26/2018 5:54 PM	VA
Aroclor 1260	ND	0.00828	0.0166	NA		mg/Kg	11/26/2018 5:54 PM	VA
Surr: Tetrachloro-m-xylene	95.5	NA	25.6-130	NA		%Rec	11/26/2018 5:54 PM	

Notes:

The ending CCV for Aroclors 1016 & 1260 exceeds laboratory control limits, indicating a high bias. Since the analytes were not detected in the sample, the reported results are not affected by this bias.

POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)			**Method: SW8270D SIM**				**Analyst: CLS**	
Anthracene	0.00599	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Acenaphthene	0.0136	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Acenaphthylene	ND	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Benzo(a)anthracene	0.0746	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Benzo(a)pyrene	0.0829	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Benzo(b)fluoranthene	0.0842	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Benzo(g,h,i)perylene	0.0579	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Benzo(k)fluoranthene	0.0403	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Chrysene	0.0503	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Dibenzo(a,h)anthracene	0.00965	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Fluoranthene	0.0699	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Fluorene	0.00266	0.000699	0.00330	NA	J	mg/Kg	11/27/2018 10:11 PM	PA/VA
Indeno(1,2,3-cd)pyrene	0.0762	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Naphthalene	ND	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Phenanthrene	0.0210	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Pyrene	0.0679	0.000699	0.00330	NA		mg/Kg	11/27/2018 10:11 PM	PA/VA
Surr: Nitrobenzene-d5	90.9	NA	23.3-150	NA		%Rec	11/27/2018 10:11 PM	
Surr: 2-Fluorobiphenyl	64.6	NA	40.1-121	NA		%Rec	11/27/2018 10:11 PM	
Surr: 4-Terphenyl-d14	72.7	NA	24.9-124	NA		%Rec	11/27/2018 10:11 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/13/2018 3:15:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-05A	**Matrix:**	Solid
Client Sample ID:	1805924-05 (P43 D7 (5-7.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
VOLATILE ORGANIC COMPOUNDS-8260			**Method: SW8260B**				**Analyst: TKC**	
Acetone	ND	26.0	52.0	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Acrolein	ND	26.0	52.0	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Acrylonitrile	ND	26.0	52.0	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Benzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Bromobenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Bromochloromethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Bromodichloromethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Bromoform	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Bromomethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
2-Butanone	ND	26.0	52.0	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
n-Butylbenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
sec-Butylbenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
tert-Butylbenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Carbon disulfide	ND	13.0	26.0	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Carbon tetrachloride	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Chlorobenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Chloroethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Chloroform	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Chloromethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
2-Chlorotoluene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
4-Chlorotoluene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Dibromochloromethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
DBCP	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,2-Dibromoethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Dibromomethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,2-Dichlorobenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,3-Dichlorobenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,4-Dichlorobenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Dichlorodifluoromethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,1-Dichloroethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,2-Dichloroethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,1-Dichloroethene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
cis-1,2-Dichloroethene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
trans-1,2-Dichloroethene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,2-Dichloropropane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,3-Dichloropropane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
2,2-Dichloropropane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/13/2018 3:15:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-05A	**Matrix:**	Solid
Client Sample ID:	1805924-05 (P43 D7 (5-7.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
1,1-Dichloropropene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
cis-1,3-Dichloropropene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
trans-1,3-Dichloropropene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Ethylbenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Hexachlorobutadiene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
2-Hexanone	ND	26.0	52.0	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Iodomethane	ND	26.0	52.0	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Isopropylbenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
p-Isopropyltoluene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Methylene chloride	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
4-Methyl-2-pentanone	ND	26.0	52.0	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
MTBE	ND	13.0	26.0	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
n-Propylbenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Styrene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Tetrachloroethene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Toluene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,2,3-Trichlorobenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,1,1-Trichloroethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,1,2-Trichloroethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Trichloroethene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Trichlorofluoromethane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,2,3-Trichloropropane	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,2,4-Trimethylbenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
1,3,5-Trimethylbenzene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Vinyl acetate	ND	26.0	52.0	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
Vinyl chloride	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	PA/VA
o-Xylene	ND	2.60	5.20	NA		µg/Kg	11/27/2018 5:02 PM	
m,p-Xylene	ND	5.20	10.4	NA		µg/Kg	11/27/2018 5:02 PM	
Surr: 1,2-Dichloroethane-d4	90.3	NA	65-124	NA		%Rec	11/27/2018 5:02 PM	
Surr: 4-Bromofluorobenzene	114	NA	75.8-128	NA		%Rec	11/27/2018 5:02 PM	
Surr: Dibromofluoromethane	97.9	NA	74.1-126	NA		%Rec	11/27/2018 5:02 PM	
Surr: Toluene-d8	89.2	NA	77.3-130	NA		%Rec	11/27/2018 5:02 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/14/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-06A	**Matrix:**	Solid
Client Sample ID:	1805924-06 (P43 E3 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
PERCENT MOISTURE			**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	13	NA	1.0	NA		wt%	11/20/2018 1:57 PM	
PCBS			**Method: SW8082A**				**Analyst: NC**	
Aroclor 1016	ND	0.00830	0.0166	NA		mg/Kg	11/26/2018 6:08 PM	VA
Aroclor 1221	ND	0.00830	0.0166	NA		mg/Kg	11/26/2018 6:08 PM	VA
Aroclor 1232	ND	0.00830	0.0166	NA		mg/Kg	11/26/2018 6:08 PM	VA
Aroclor 1242	8.75	0.0830	0.166	NA		mg/Kg	12/3/2018 9:32 AM	VA
Aroclor 1248	ND	0.00830	0.0166	NA		mg/Kg	11/26/2018 6:08 PM	VA
Aroclor 1254	ND	0.00830	0.0166	NA		mg/Kg	11/26/2018 6:08 PM	VA
Aroclor 1260	ND	0.00830	0.0166	NA		mg/Kg	11/26/2018 6:08 PM	VA
Surr: Tetrachloro-m-xylene	153	NA	25.6-130	NA	S	%Rec	11/26/2018 6:08 PM	

Notes:

The ending CCV for Aroclors 1016 & 1260 exceeds laboratory control limits, indicating a high bias. Since the analytes were not detected in the sample, the reported results are not affected by this bias.

The surrogate recovery is outside laboratory control limits due to matrix interference.

POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)			**Method: SW8270D SIM**				**Analyst: CLS**	
Anthracene	0.0116	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Acenaphthene	0.0116	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Acenaphthylene	0.00232	0.000697	0.00329	NA	J	mg/Kg	11/27/2018 11:46 PM	PA/VA
Benzo(a)anthracene	0.0773	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Benzo(a)pyrene	0.0757	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Benzo(b)fluoranthene	0.0757	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Benzo(g,h,i)perylene	0.0571	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Benzo(k)fluoranthene	0.0272	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Chrysene	0.0478	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Dibenzo(a,h)anthracene	0.0123	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Fluoranthene	0.0634	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Fluorene	0.00299	0.000697	0.00329	NA	J	mg/Kg	11/27/2018 11:46 PM	PA/VA
Indeno(1,2,3-cd)pyrene	0.0780	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Naphthalene	0.00531	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Phenanthrene	0.0236	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Pyrene	0.0544	0.000697	0.00329	NA		mg/Kg	11/27/2018 11:46 PM	PA/VA
Surr: Nitrobenzene-d5	105	NA	23.3-150	NA		%Rec	11/27/2018 11:46 PM	
Surr: 2-Fluorobiphenyl	64.6	NA	40.1-121	NA		%Rec	11/27/2018 11:46 PM	
Surr: 4-Terphenyl-d14	66.7	NA	24.9-124	NA		%Rec	11/27/2018 11:46 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/14/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-06A	**Matrix:**	Solid
Client Sample ID:	1805924-06 (P43 E3 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
VOLATILE ORGANIC COMPOUNDS-8260			**Method: SW8260B**				**Analyst: TKC**	
Acetone	ND	18.0	36.0	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Acrolein	ND	18.0	36.0	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Acrylonitrile	ND	18.0	36.0	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Benzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Bromobenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Bromochloromethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Bromodichloromethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Bromoform	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Bromomethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
2-Butanone	ND	18.0	36.0	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
n-Butylbenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
sec-Butylbenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
tert-Butylbenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Carbon disulfide	ND	9.00	18.0	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Carbon tetrachloride	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Chlorobenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Chloroethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Chloroform	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Chloromethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
2-Chlorotoluene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
4-Chlorotoluene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Dibromochloromethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
DBCP	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,2-Dibromoethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Dibromomethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,2-Dichlorobenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,3-Dichlorobenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,4-Dichlorobenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Dichlorodifluoromethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,1-Dichloroethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,2-Dichloroethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,1-Dichloroethene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
cis-1,2-Dichloroethene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
trans-1,2-Dichloroethene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,2-Dichloropropane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,3-Dichloropropane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
2,2-Dichloropropane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/14/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-06A	**Matrix:**	Solid
Client Sample ID:	1805924-06 (P43 E3 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
1,1-Dichloropropene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
cis-1,3-Dichloropropene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
trans-1,3-Dichloropropene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Ethylbenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Hexachlorobutadiene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
2-Hexanone	ND	18.0	36.0	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Iodomethane	ND	18.0	36.0	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Isopropylbenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
p-Isopropyltoluene	20.9	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Methylene chloride	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
4-Methyl-2-pentanone	ND	18.0	36.0	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
MTBE	ND	9.00	18.0	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
n-Propylbenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Styrene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Tetrachloroethene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Toluene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,2,3-Trichlorobenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,1,1-Trichloroethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,1,2-Trichloroethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Trichloroethene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Trichlorofluoromethane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,2,3-Trichloropropane	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,2,4-Trimethylbenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
1,3,5-Trimethylbenzene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Vinyl acetate	ND	18.0	36.0	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
Vinyl chloride	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	PA/VA
o-Xylene	ND	1.80	3.60	NA		µg/Kg	11/27/2018 5:36 PM	
m,p-Xylene	ND	3.60	7.20	NA		µg/Kg	11/27/2018 5:36 PM	
Surr: 1,2-Dichloroethane-d4	130	NA	65-124	NA	S	%Rec	11/27/2018 5:36 PM	
Surr: 4-Bromofluorobenzene	104	NA	75.8-128	NA		%Rec	11/27/2018 5:36 PM	
Surr: Dibromofluoromethane	110	NA	74.1-126	NA		%Rec	11/27/2018 5:36 PM	
Surr: Toluene-d8	112	NA	77.3-130	NA		%Rec	11/27/2018 5:36 PM	

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/14/2018 5:30:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-07A	**Matrix:**	Solid
Client Sample ID:	1805924-07 (P43 F2 (0-2.4))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
PERCENT MOISTURE			**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	17	NA	1.0	NA		wt%	11/20/2018 1:57 PM	
PCBS			**Method: SW8082A**				**Analyst: NC**	
Aroclor 1016	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 6:22 PM	VA
Aroclor 1221	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 6:22 PM	VA
Aroclor 1232	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 6:22 PM	VA
Aroclor 1242	3.41	0.0833	0.167	NA		mg/Kg	12/3/2018 9:46 AM	VA
Aroclor 1248	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 6:22 PM	VA
Aroclor 1254	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 6:22 PM	VA
Aroclor 1260	ND	0.00833	0.0167	NA		mg/Kg	11/26/2018 6:22 PM	VA
Surr: Tetrachloro-m-xylene	154	NA	25.6-130	NA	S	%Rec	11/26/2018 6:22 PM	

Notes:

The ending CCV for Aroclors 1016 & 1260 exceeds laboratory control limits, indicating a high bias. Since the analytes were not detected in the sample, the reported results are not affected by this bias.

The surrogate recovery is outside laboratory control limits due to matrix interference.

POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)			**Method: SW8270D SIM**				**Analyst: CLS**	
Anthracene	0.0276	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Acenaphthene	0.0176	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Acenaphthylene	0.00398	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Benzo(a)anthracene	0.108	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Benzo(a)pyrene	0.0890	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Benzo(b)fluoranthene	0.0853	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Benzo(g,h,i)perylene	0.0568	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Benzo(k)fluoranthene	0.0289	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Chrysene	0.0641	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Dibenzo(a,h)anthracene	0.0126	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Fluoranthene	0.127	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Fluorene	0.0116	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Indeno(1,2,3-cd)pyrene	0.0784	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Naphthalene	0.0120	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Phenanthrene	0.0850	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Pyrene	0.103	0.000697	0.00329	NA		mg/Kg	11/28/2018 12:10 AM	PA/VA
Surr: Nitrobenzene-d5	116	NA	23.3-150	NA		%Rec	11/28/2018 12:10 AM	
Surr: 2-Fluorobiphenyl	68.7	NA	40.1-121	NA		%Rec	11/28/2018 12:10 AM	
Surr: 4-Terphenyl-d14	73.7	NA	24.9-124	NA		%Rec	11/28/2018 12:10 AM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/14/2018 5:30:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-07A	**Matrix:**	Solid
Client Sample ID:	1805924-07 (P43 F2 (0-2.4))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
VOLATILE ORGANIC COMPOUNDS-8260			**Method: SW8260B**				**Analyst: TKC**	
Acetone	ND	20.0	40.0	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Acrolein	ND	20.0	40.0	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Acrylonitrile	ND	20.0	40.0	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Benzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Bromobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Bromochloromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Bromodichloromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Bromoform	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Bromomethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
2-Butanone	ND	20.0	40.0	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
n-Butylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
sec-Butylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
tert-Butylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Carbon disulfide	ND	10.0	20.0	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Carbon tetrachloride	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Chlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Chloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Chloroform	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Chloromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
2-Chlorotoluene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
4-Chlorotoluene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Dibromochloromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
DBCP	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,2-Dibromoethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Dibromomethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,2-Dichlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,3-Dichlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,4-Dichlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Dichlorodifluoromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,1-Dichloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,2-Dichloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,1-Dichloroethene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
cis-1,2-Dichloroethene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
trans-1,2-Dichloroethene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,2-Dichloropropane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,3-Dichloropropane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
2,2-Dichloropropane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/14/2018 5:30:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-07A	**Matrix:**	Solid
Client Sample ID:	1805924-07 (P43 F2 (0-2.4))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
1,1-Dichloropropene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
cis-1,3-Dichloropropene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
trans-1,3-Dichloropropene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Ethylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Hexachlorobutadiene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
2-Hexanone	ND	20.0	40.0	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Iodomethane	ND	20.0	40.0	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Isopropylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
p-Isopropyltoluene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Methylene chloride	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
4-Methyl-2-pentanone	ND	20.0	40.0	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
MTBE	ND	10.0	20.0	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
n-Propylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Styrene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Tetrachloroethene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Toluene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,2,3-Trichlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,1,1-Trichloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,1,2-Trichloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Trichloroethene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Trichlorofluoromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,2,3-Trichloropropane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,2,4-Trimethylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
1,3,5-Trimethylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Vinyl acetate	ND	20.0	40.0	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
Vinyl chloride	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	PA/VA
o-Xylene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 6:10 PM	
m,p-Xylene	ND	4.00	8.00	NA		µg/Kg	11/27/2018 6:10 PM	
Surr: 1,2-Dichloroethane-d4	91.9	NA	65-124	NA		%Rec	11/27/2018 6:10 PM	
Surr: 4-Bromofluorobenzene	109	NA	75.8-128	NA		%Rec	11/27/2018 6:10 PM	
Surr: Dibromofluoromethane	94.1	NA	74.1-126	NA		%Rec	11/27/2018 6:10 PM	
Surr: Toluene-d8	88.6	NA	77.3-130	NA		%Rec	11/27/2018 6:10 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-08A	**Matrix:**	Solid
Client Sample ID:	1805924-08 (P45 B1 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
PERCENT MOISTURE			**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	22	NA	1.0	NA		wt%	11/20/2018 1:57 PM	
PCBS			**Method: SW8082A**				**Analyst: NC**	
Aroclor 1016	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 6:36 PM	VA
Aroclor 1221	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 6:36 PM	VA
Aroclor 1232	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 6:36 PM	VA
Aroclor 1242	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 6:36 PM	VA
Aroclor 1248	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 6:36 PM	VA
Aroclor 1254	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 6:36 PM	VA
Aroclor 1260	ND	0.00831	0.0166	NA		mg/Kg	11/26/2018 6:36 PM	VA
Surr: Tetrachloro-m-xylene	152	NA	25.6-130	NA	S	%Rec	11/26/2018 6:36 PM	

Notes:

The ending CCV for Aroclors 1016 & 1260 exceeds laboratory control limits, indicating a high bias. Since the analytes were not detected in the sample, the reported results are not affected by this bias.

The surrogate recovery is outside laboratory control limits due to matrix interference.

POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)			**Method: SW8270D SIM**				**Analyst: CLS**	
Anthracene	0.0136	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Acenaphthene	0.0299	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Acenaphthylene	ND	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Benzo(a)anthracene	0.134	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Benzo(a)pyrene	0.130	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Benzo(b)fluoranthene	0.142	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Benzo(g,h,i)perylene	0.115	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Benzo(k)fluoranthene	0.0489	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Chrysene	0.0955	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Dibenzo(a,h)anthracene	0.0210	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Fluoranthene	0.140	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Fluorene	0.00432	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Indeno(1,2,3-cd)pyrene	0.154	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Naphthalene	0.00233	0.000699	0.00329	NA	J	mg/Kg	11/28/2018 12:34 AM	PA/VA
Phenanthrene	0.0536	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Pyrene	0.131	0.000699	0.00329	NA		mg/Kg	11/28/2018 12:34 AM	PA/VA
Surr: Nitrobenzene-d5	128	NA	23.3-150	NA		%Rec	11/28/2018 12:34 AM	
Surr: 2-Fluorobiphenyl	73.7	NA	40.1-121	NA		%Rec	11/28/2018 12:34 AM	
Surr: 4-Terphenyl-d14	76.8	NA	24.9-124	NA		%Rec	11/28/2018 12:34 AM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-08A	**Matrix:**	Solid
Client Sample ID:	1805924-08 (P45 B1 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
VOLATILE ORGANIC COMPOUNDS-8260			**Method: SW8260B**				**Analyst: TKC**	
Acetone	ND	20.0	40.0	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Acrolein	ND	20.0	40.0	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Acrylonitrile	ND	20.0	40.0	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Benzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Bromobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Bromochloromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Bromodichloromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Bromoform	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Bromomethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
2-Butanone	ND	20.0	40.0	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
n-Butylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
sec-Butylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
tert-Butylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Carbon disulfide	ND	10.0	20.0	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Carbon tetrachloride	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Chlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Chloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Chloroform	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Chloromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
2-Chlorotoluene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
4-Chlorotoluene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Dibromochloromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
DBCP	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,2-Dibromoethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Dibromomethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,2-Dichlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,3-Dichlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,4-Dichlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Dichlorodifluoromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,1-Dichloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,2-Dichloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,1-Dichloroethene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
cis-1,2-Dichloroethene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
trans-1,2-Dichloroethene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,2-Dichloropropane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,3-Dichloropropane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
2,2-Dichloropropane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-08A	**Matrix:**	Solid
Client Sample ID:	1805924-08 (P45 B1 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
1,1-Dichloropropene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
cis-1,3-Dichloropropene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
trans-1,3-Dichloropropene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Ethylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Hexachlorobutadiene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
2-Hexanone	ND	20.0	40.0	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Iodomethane	ND	20.0	40.0	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Isopropylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
p-Isopropyltoluene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Methylene chloride	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
4-Methyl-2-pentanone	ND	20.0	40.0	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
MTBE	ND	10.0	20.0	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
n-Propylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Styrene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Tetrachloroethene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Toluene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,2,3-Trichlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,1,1-Trichloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,1,2-Trichloroethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Trichloroethene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Trichlorofluoromethane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,2,3-Trichloropropane	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,2,4-Trimethylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
1,3,5-Trimethylbenzene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Vinyl acetate	ND	20.0	40.0	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
Vinyl chloride	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	PA/VA
o-Xylene	ND	2.00	4.00	NA		µg/Kg	11/27/2018 8:25 PM	
m,p-Xylene	ND	4.00	8.00	NA		µg/Kg	11/27/2018 8:25 PM	
Surr: 1,2-Dichloroethane-d4	98.6	NA	65-124	NA		%Rec	11/27/2018 8:25 PM	
Surr: 4-Bromofluorobenzene	103	NA	75.8-128	NA		%Rec	11/27/2018 8:25 PM	
Surr: Dibromofluoromethane	102	NA	74.1-126	NA		%Rec	11/27/2018 8:25 PM	
Surr: Toluene-d8	92.4	NA	77.3-130	NA		%Rec	11/27/2018 8:25 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-09A	**Matrix:**	Solid
Client Sample ID:	1805924-09 (P45 B5 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
PERCENT MOISTURE			**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	19	NA	1.0	NA		wt%	11/20/2018 1:57 PM	
PCBS			**Method: SW8082A**				**Analyst: NC**	
Aroclor 1016	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 6:50 PM	VA
Aroclor 1221	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 6:50 PM	VA
Aroclor 1232	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 6:50 PM	VA
Aroclor 1242	0.817	0.00832	0.0166	NA		mg/Kg	12/3/2018 10:00 AM	VA
Aroclor 1248	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 6:50 PM	VA
Aroclor 1254	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 6:50 PM	VA
Aroclor 1260	ND	0.00832	0.0166	NA		mg/Kg	11/26/2018 6:50 PM	VA
Surr: Tetrachloro-m-xylene	139	NA	25.6-130	NA	S	%Rec	11/26/2018 6:50 PM	

Notes:

The ending CCV for Aroclors 1016 & 1260 exceeds laboratory control limits, indicating a high bias. Since the analytes were not detected in the sample, the reported results are not affected by this bias.

The surrogate recovery is outside laboratory control limits due to matrix interference.

POLYNUCLEAR AROMATIC HYDROCARBONS (SIM)			**Method: SW8270D SIM**				**Analyst: CLS**	
Anthracene	0.0130	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Acenaphthene	0.00532	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Acenaphthylene	ND	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Benzo(a)anthracene	0.0502	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Benzo(a)pyrene	0.0183	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Benzo(b)fluoranthene	0.0256	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Benzo(g,h,i)perylene	0.00931	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Benzo(k)fluoranthene	0.00931	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Chrysene	0.0329	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Dibenzo(a,h)anthracene	0.00266	0.000698	0.00329	NA	J	mg/Kg	11/28/2018 12:57 AM	PA/VA
Fluoranthene	0.150	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Fluorene	0.00299	0.000698	0.00329	NA	J	mg/Kg	11/28/2018 12:57 AM	PA/VA
Indeno(1,2,3-cd)pyrene	0.0150	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Naphthalene	0.00233	0.000698	0.00329	NA	J	mg/Kg	11/28/2018 12:57 AM	PA/VA
Phenanthrene	0.120	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Pyrene	0.0991	0.000698	0.00329	NA		mg/Kg	11/28/2018 12:57 AM	PA/VA
Surr: Nitrobenzene-d5	118	NA	23.3-150	NA		%Rec	11/28/2018 12:57 AM	
Surr: 2-Fluorobiphenyl	69.7	NA	40.1-121	NA		%Rec	11/28/2018 12:57 AM	
Surr: 4-Terphenyl-d14	72.7	NA	24.9-124	NA		%Rec	11/28/2018 12:57 AM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-09A	**Matrix:**	Solid
Client Sample ID:	1805924-09 (P45 B5 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
VOLATILE ORGANIC COMPOUNDS-8260			**Method: SW8260B**				**Analyst: TKC**	
Acetone	ND	15.6	31.2	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Acrolein	ND	15.6	31.2	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Acrylonitrile	ND	15.6	31.2	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Benzene	1.89	1.56	3.12	NA	J	µg/Kg	11/27/2018 8:59 PM	PA/VA
Bromobenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Bromochloromethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Bromodichloromethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Bromoform	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Bromomethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
2-Butanone	ND	15.6	31.2	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
n-Butylbenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
sec-Butylbenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
tert-Butylbenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Carbon disulfide	ND	7.80	15.6	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Carbon tetrachloride	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Chlorobenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Chloroethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Chloroform	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Chloromethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
2-Chlorotoluene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
4-Chlorotoluene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Dibromochloromethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
DBCP	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,2-Dibromoethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Dibromomethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,2-Dichlorobenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,3-Dichlorobenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,4-Dichlorobenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Dichlorodifluoromethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,1-Dichloroethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,2-Dichloroethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,1-Dichloroethene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
cis-1,2-Dichloroethene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
trans-1,2-Dichloroethene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,2-Dichloropropane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,3-Dichloropropane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
2,2-Dichloropropane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/15/2018 5:00:00 PM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-09A	**Matrix:**	Solid
Client Sample ID:	1805924-09 (P45 B5 (0-2.5))	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
1,1-Dichloropropene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
cis-1,3-Dichloropropene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
trans-1,3-Dichloropropene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Ethylbenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Hexachlorobutadiene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
2-Hexanone	ND	15.6	31.2	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Iodomethane	ND	15.6	31.2	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Isopropylbenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
p-Isopropyltoluene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Methylene chloride	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
4-Methyl-2-pentanone	ND	15.6	31.2	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
MTBE	ND	7.80	15.6	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
n-Propylbenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Styrene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Tetrachloroethene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Toluene	1.76	1.56	3.12	NA	J	µg/Kg	11/27/2018 8:59 PM	PA/VA
1,2,3-Trichlorobenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,1,1-Trichloroethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,1,2-Trichloroethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Trichloroethene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Trichlorofluoromethane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,2,3-Trichloropropane	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,2,4-Trimethylbenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
1,3,5-Trimethylbenzene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Vinyl acetate	ND	15.6	31.2	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
Vinyl chloride	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	PA/VA
o-Xylene	ND	1.56	3.12	NA		µg/Kg	11/27/2018 8:59 PM	
m,p-Xylene	ND	3.12	6.24	NA		µg/Kg	11/27/2018 8:59 PM	
Surr: 1,2-Dichloroethane-d4	105	NA	65-124	NA		%Rec	11/27/2018 8:59 PM	
Surr: 4-Bromofluorobenzene	108	NA	75.8-128	NA		%Rec	11/27/2018 8:59 PM	
Surr: Dibromofluoromethane	103	NA	74.1-126	NA		%Rec	11/27/2018 8:59 PM	
Surr: Toluene-d8	90.1	NA	77.3-130	NA		%Rec	11/27/2018 8:59 PM	

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/16/2018 12:00:00 AM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-10A	**Matrix:**	Trip Blank
Client Sample ID:	1805924-10 (TRIP BLANK)	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
VOLATILE ORGANIC COMPOUNDS-8260			**Method: SW8260B**				**Analyst: DTC**	
Acetone	ND	5.00	10.0	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Acrolein	ND	5.00	10.0	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Benzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Bromoform	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Bromomethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
MEK	ND	5.00	10.0	NA		µg/L	11/30/2018 1:40 AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Chloroethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Chloroform	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Chloromethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
DBCP	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18112453

Date Reported: 12/4/2018
Original

Client:	PACE ANALYTICAL SERVICES LLC-WV	**Collection Date:**	11/16/2018 12:00:00 AM
Project:	0101-18-0317-001	**Date Received:**	11/19/2018
Lab ID:	18112453-10A	**Matrix:**	Trip Blank
Client Sample ID:	1805924-10 (TRIP BLANK)	**Site ID:**	WV

Analysis	Result	MDL	PQL	MCL	Qual	Units	Date Analyzed	NELAP
1,1-Dichloropropene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Hexachlorobutadiene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Iodomethane	ND	5.00	10.0	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
p-Isopropyltoluene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA		µg/L	11/30/2018 1:40 AM	PA/VA
MTBE	ND	2.50	5.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Styrene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Toluene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
o-Xylene	ND	0.500	1.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
m,p-Xylene	ND	1.00	2.00	NA		µg/L	11/30/2018 1:40 AM	PA/VA
Surr: 1,2-Dichloroethane-d4	103	NA	75.9-132	NA		%Rec	11/30/2018 1:40 AM	
Surr: 4-Bromofluorobenzene	94.8	NA	73.6-132	NA		%Rec	11/30/2018 1:40 AM	
Surr: Dibromofluoromethane	98.2	NA	80.1-127	NA		%Rec	11/30/2018 1:40 AM	
Surr: Toluene-d8	103	NA	72.4-119	NA		%Rec	11/30/2018 1:40 AM	

Pace Analytical Services, LLC
PO Box 684056
Chicago, IL 60695-4056
TEL: (304)255-2500
Website: www.reiclabs.com

Sample Receipt Checklist

Client Name:	PAC009			Work Order Number:	18112453
RCPNo:	1	Date and Time Received:	11/19/2018 6:11:49 PM	Received by:	Blane Williams
Completed By:	Zach Cook		Reviewed By:	Billy Shirley	
Completed Date:	11/19/2018 6:32:16 PM		Reviewed Date:	11/20/2018 6:34 AM	

Carrier Name: Pace

1.	Chain of custody present?	Yes [x]	No [ ]	
2.	Chain of custody signed when relinquished and received?	Yes [x]	No [ ]	
3.	Are matrices correctly identified on Chain of custody?	Yes [x]	No [ ]	
4.	Is it clear what analyses were requested?	Yes [x]	No [ ]	
5.	Custody seals intact?	Yes [ ]	No [ ]	Not Present [x]
6.	Samples in proper container type and preservative?	Yes [x]	No [ ]	
7.	Were correct preservatives noted on COC?	Yes [x]	No [ ]	NA [ ]
8.	Sample containers intact?	Yes [x]	No [ ]	
9.	Sufficient sample volume for indicated test?	Yes [x]	No [ ]	
10.	Were container labels complete?	Yes [x]	No [ ]	
11.	All samples received within holding time?	Yes [x]	No [ ]	
12.	Was an attempt made to cool the samples?	Yes [x]	No [ ]	NA [ ]
13.	Sample Temp. taken and recorded upon receipt?	Yes [x]	No [ ]	To 5.6 °C
14.	Water - Were bubbles absent in VOC vials?	Yes [ ]	No [ ]	No Vials [x]
15.	Are Samples considered acceptable?	Yes [x]	No [ ]	
16.	COC filled out properly?	Yes [x]	No [ ]	

Client Notification/Response

Client Name:	PAC009						Work Order Number:	18112453
Comment:								
Client Contacted:	Yes	[ ]	No	[ ]	NA	[x]	Person Contacted:	
Contact Mode:	Phone	[ ]	Fax:	[ ]	Email:	[ ]	In Person:	[ ]
Date Contacted:				Contacted By:				
Regarding:								
Client Instructions:								
Corrective Action:								

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Pace Beaver, WV

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

18112453

PAC009

ALL PACE ANALYTICAL SERVICES LAB USE ONLY

Billy Shirley

Company: Pace Analytical Services - Hurricane, WV

Billing Information: 5 Weatherbridge Drive, Hurricane, WV 25526

Address: 5 Weatherbridge Drive, Hurricane, WV 25526

Report To: 5 Weatherbridge Drive, Hurricane, WV 25526

Email To: brian.richards@pacelabs.com

Copy To: Brian Richards

Site Collection Info/Address:

Customer Project Name/Number: 0101-16-0317-001

State: WV County/City: Time Zone Collected: ET

Phone: 304-757-8954

Email:

Site/Facility ID #

Compliance Monitoring? [X] Yes [ ] No

Collected by (print): AG/AK

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature):

Turnaround Date Required: 11/29/18 4 pm

Immediately Packed on Ice? [X] Yes [ ] No

Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive ____ [ ] Hold ____

RUSH: Same Day, Next Day, 2 Day, 3 Day, 4 Day, 5 Day (Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

Container Preservative Type: 6,7 | U | U

* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other ____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses

Customer Sample ID	Matrix*	Comp/Grab	Collected Date	Collected Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	VOCs 8260	SVOCs 8270 (LL SIM)	PCBs	LAB USE ONLY: Lab Sample # / Comments
1805924-01 (B1 B1 (2.5-4.2))	S	G	11/15/2018	1700				1 TC, 1 8oz	X	X	X	
1805924-02 (B9 B2 (0-2.5))	S	G	11/15/2018	1700				1 TC, 1 8oz	X	X	X	
1805924-03 ((P43 A2 (0-3))	S	G	11/16/2018	1230				1 TC, 1 8oz	X	X	X	
1805924-04 (P43 B6 (0-2))	S	G	11/13/2018	1630				1 TC, 1 8oz	X	X	X	
1805924-05 (P43 D7 (5-7.5))	S	G	11/13/2018	1515				1 TC, 1 8oz	X	X	X	
1805924-06 (P43 E3 (0-2.5))	S	G	11/14/2018	1700				1 TC, 1 8oz	X	X	X	
1805924-07 (P43 F2 (0-2.4))	S	G	11/14/2018	1730				1 TC, 1 8oz	X	X	X	
1805924-08 (P45 B1 (0-2.5))	S	G	11/15/2018	1700				1 TC, 1 8oz	X	X	X	
1805924-09 (P45 B5 (0-2.5))	S	G	11/15/2018	1700				1 TC, 1 8oz	X	X	X	
1805924-10 (Trip Blank)	S	G	–	–				2 VOA	X			Recd cont 11/19/18

LAB Profile/Line:

LAB Sample Receipt Checklist:

- Custody Seals Present/Intact Y N NA
- Custody Signatures Present Y N NA
- Collector Signature Present Y N NA
- Bottles Intact Y N NA
- Correct Bottles Y N NA
- Sufficient Volume Y N NA
- Samples Received on Ice Y N NA
- VOA - Headspace Acceptable Y N NA
- USDA Regulated Soils Y N NA
- Samples in Holding Time Y N NA
- Residual Chlorine Present Y N NA
- Cl Strips: ____
- Sample pH Acceptable Y N NA
- pH Strips: ____
- Sulfide Present Y N NA
- Lead Acetate Strips: ____

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet [✓] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (<72 hours): Y N NA

Packing Material Used:

LAB Tracking #:

Radchem sample(s) screened (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier

LAB Sample Temperature Info:

- Temp Blank Received: Y N NA
- Therm ID #: 16
- Cooler 1 Temp Upon Receipt: 5.6 °C
- Cooler 1 Therm Corr. Factor: 0.0 °C
- Cooler 1 Corrected Temp: 5.6 °C
- Comments:

MTJL LAB USE ONLY

Table #: ____

ACCT #: ____

Template: ____

Prelogin: ____

PM: ____

PB: ____

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
[signature]	11-19-18 / 920	[signature] 11-19-18	12:10

Trip Blank Received: Y N NA — HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page ____ of ____

F-ALL-C-010-rev.00, 05Jul2018

POTESTA
ENGINEERS AND ENVIRONMENTAL CONSULTANTS

CHARLESTON OFFICE
7012 MacCorkle Avenue, SE
Charleston, WV 25304
Phone: (304) 342-1400
Fax: (304) 343-9031

MORGANTOWN OFFICE
125 Lakeview Drive
Morgantown, WV 26508
Phone: (304) 225-2245
Fax: (304) 225-2246

WINCHESTER OFFICE
15 South Braddock Street
Winchester, VA 22601
Phone: (540) 450-0180
Fax: (540) 450-0182

CHAIN OF CUSTODY RECORD

CLIENT/SAMPLING SITE: HMDA Flint Parcels 43 and 45
Huntington, WV

POTESTA PROJECT NO.: 0101-18-0317-001 BILL TO: Potesta

DELIVERABLE: Email (PDF and EDD) (e.g., Email, Hard Copy, EDD (Excel), Other)

LAB USED: Pace (Hurricane) HOW SHIPPED: Hand Delivered

CONTACT PERSON(S): Dave Corsaro

OFFICE LOCATION(S): Charleston

EMAIL(S): djcorsaro@potesta.com

SAMPLER(S): AG/RB

SAMPLE LOG AND ANALYSIS REQUESTED
1805924

PRESERVATIVE CODES (See Note 1)
0 No Preservative
1 Hydrochloric Acid
2 Nitric Acid
3 Sulfuric Acid
4 Sodium Thiosulfate
5 Sodium Hydroxide
6 Zinc Acetate
7 EDTA
8 Other - See Comments

TURNAROUND TIME
Regular [X]
Rush [ ]
(Indicate Date Needed) 11/24/18

SAMPLE ID	NO. & TYPE OF CONTAINERS (Note Preservative Code)	DATE	TIME	MATRIX	COMP/ GRAB	ANALYSIS REQUESTED and METHOD	VOCs (8260)	SVOCs (8270 - Low Level SIM)	RCRA Metals	PCBs				% Solids (See Note 2)	REMARKS
B1 B1 (2.5-4.2) -01	1 Terra Core Kit and 2-9 Ounce Jars (0)	11/15/18	1700	Soil	Grab		X	X	X	X					
B9 B2 (0-2.5) -02		11/15/18	1700				X	X	X	X					
P43 A2 (0-3) -03		11/16/18	1230				X	X	X	X					
P43 B6 (0-2) -04		11/13/18	1600				X	X	X	X					
P43 D7 (5-7.5) -05		11/13/18	1515				X	X	X	X					
P43 E3 (0-2.5) -06		11/14/18	1700				X	X	X	X					
P43 F2 (0-2.4) -07		11/14/18	1730				X	X	X	X					
P45 B1 (0-2.5) -08		11/15/18	1700				X	X	X	X					
P45 B5 (0-2.5) -09		11/15/18	1700				X	X	X	X					
Trip Blank -10	2-40 mL VOA Vials (1)	N/A	N/A	Water	N/A		X								

NOTES:
1) Sample(s) cooled upon collection unless otherwise noted.
2) % Solids analysis required to generate dry-weight basis analytical results for solid and semi-solid samples.

RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE	TIME
		11/16/18	1755
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE	TIME

COMMENTS:

(LAB USE ONLY) Temp. (°C) | Note Issues with Sample Condition in Remarks or Comments Section
Cooling Method (Circle One) Ice Refrigerated NA (see Notes)